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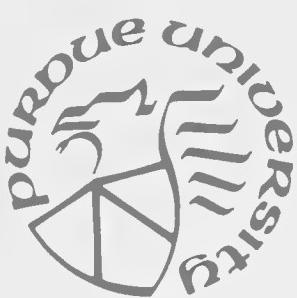
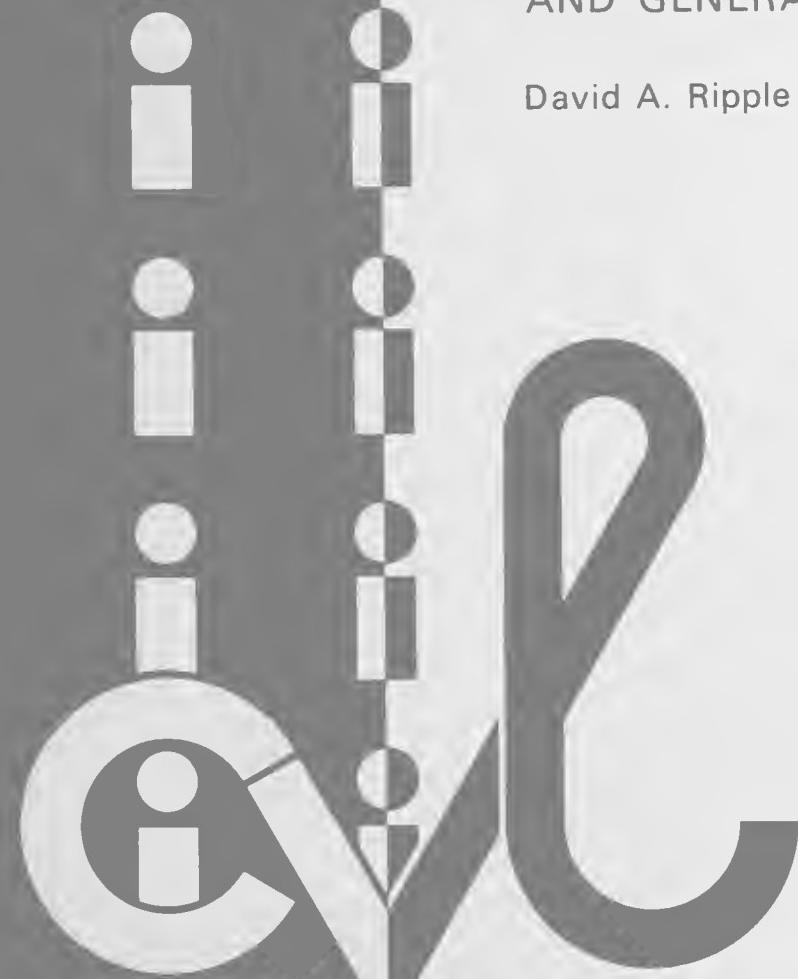
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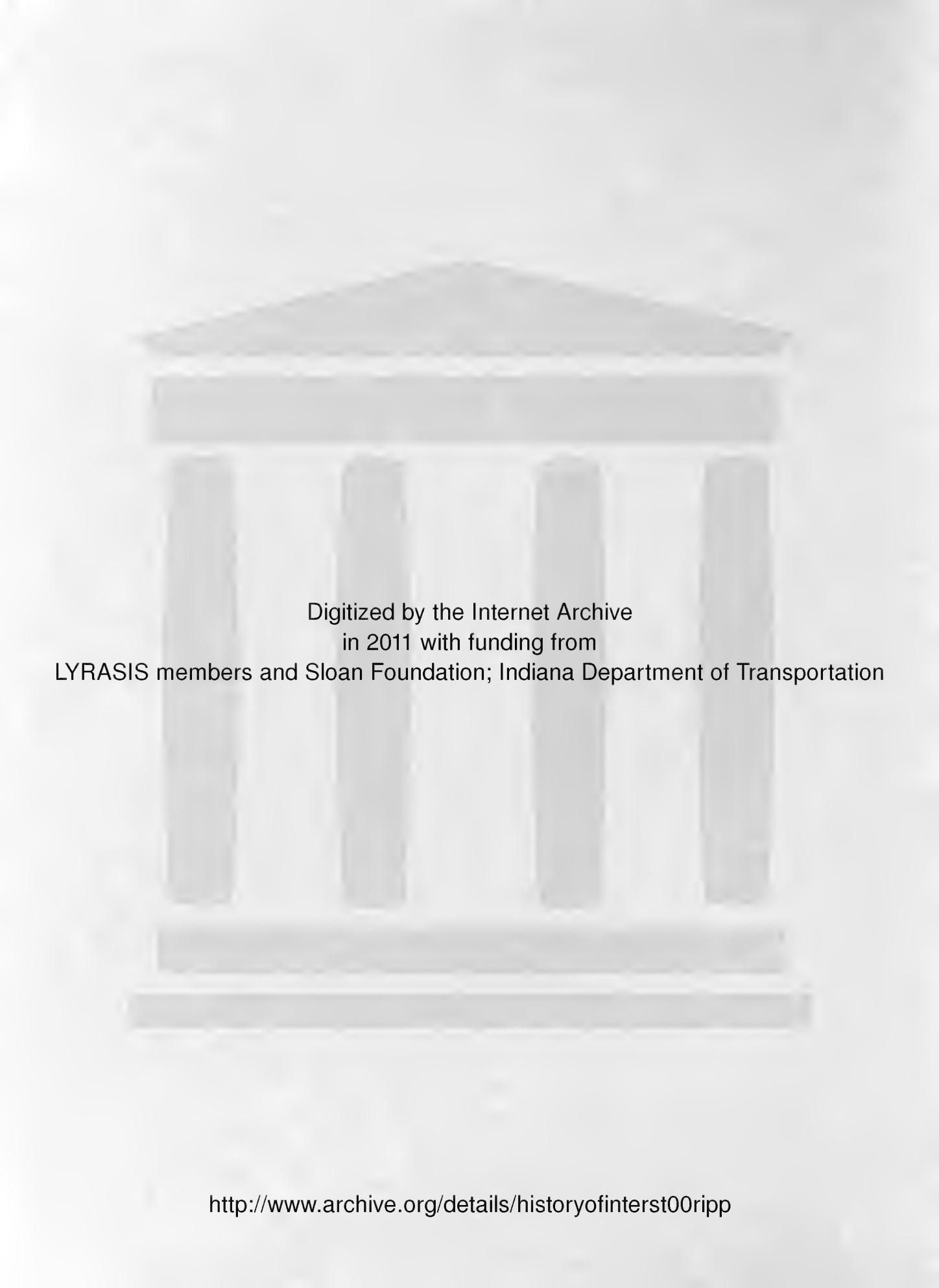
HISTORY OF THE INTERSTATE
SYSTEM IN INDIANA

VOLUME IV - COST, FUNDING
AND GENERAL BENEFITS

David A. Ripple



PURDUE
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HIGHWAY COMMISSION



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Final Report

HISTORY OF THE INTERSTATE SYSTEM IN INDIANA

TO: J. F. McLaughlin, Director December 1, 1975
Joint Highway Research Project

FROM: H. L. Michael, Associate Director Project: C-36-64H
Joint Highway Research Project File: 3-5-8

Attached is the Final Report titled "History of the Interstate System in Indiana", authored by David A. Ripple a Graduate Instructor on our staff while conducting the research and authoring the Report. Professor W. L. Grecco, formerly of our staff, directed the study during its initial year and Professor Michael supervised it during the latter years and handled the lengthy review process. The Report has been reviewed by several personnel of the ISHC, including Mr. Walter Frick, and changes suggested by them have generally been made and are sincerely appreciated.

The History covers the period from the late 1930's through 1972. The Interstate System was not yet complete in 1972 and the period after 1972 is not reported herein. Perhaps it will be at a later date after the System is completed.

The Report is voluminous and therefore is issued in four (4) volumes as follows:

Volume I - Development of the National Program
(Chapters I thru IV)

Volume II - Evolution of Policies and Standards
(Chapter V)

Volume III - Route History
(Chapter VI)

Volume IV - Cost, Funding and General Benefits
(Chapters VII and VIII)

Another volume as an Appendix which is a detailed Table titled "Interstate Highway Construction Record" is also in preparation and will be issued at a later date. A brief summary of the entire history is also in preparation.

Each of the Volumes covers a part of the History and may be used separately as each is complete for the topic or topics covered. The entire set of four volumes provides an excellent in-depth reference document of the Interstate System history in Indiana and should be extremely valuable for many purposes. To my knowledge Indiana is the first state to prepare such a factual detailed history of the Interstate System.

Sincerely,

Harold L. Michael

Harold L. Michael
Associate Director

HLM:ms

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Final Report

HISTORY OF THE INTERSTATE HIGHWAY SYSTEM IN INDIANA

Volume IV (Chapters VII and VIII)

COST, FUNDING AND GENERAL BENEFITS

by

David Alan Ripple
Graduate Instructor in Research

Joint Highway Research Project

Project No.: C-36-64H

File No.: 3-5-8

Joint Highway Research Project
Engineering Experiment Station
Purdue University

In Cooperation With

Indiana State Highway Commission

The contents of this Report reflect the views of the author who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Indiana State Highway Commission or of the Joint Highway Research Project of Purdue University.

Purdue University
West Lafayette, Indiana
December, 1975

This dissertation is dedicated to those who conceived an interregional system of superhighways and to those who brought this concept into reality.

ACKNOWLEDGEMENTS

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The ultimate task of reviewing this report fell to Professor Harold L. Michael, Head of the Urban and Transportation Engineering Department at Purdue University, who succeeded Dr. Grecco as major professor. During the compiling of the report, his guidance and constructive criticism were invaluable.

The participation of Dr. Gilbert T. Satterly, Jr., of the Urban and Transportation Engineering Department, Dr. Harvey H. Marshall, Jr., of the Department of Sociology, and Dr. David H. Root of the Department of Statistics in the review and critique of this research was most welcome.

The open cooperation of the Indiana State Highway Commission personnel in providing access to their files, in compiling data for portions of the report and in supplying information in extensive interviews was responsible to a large degree for the success of the research. The cooperation of the Indiana Division Office of the Federal Highway Administration and many other transportation related agencies throughout Indiana in providing additional information was invaluable.

The author also owes a debt of gratitude to the secretaries of the Joint Highway Research Project office who typed this report, the draft persons who constructed the illustrations, and his fellow students who offered encouragement and support for this research.

Not least, I acknowledge the unrepayable debt to Melinda, my wife, for reviewing the rough drafts of this report as well as providing continual moral support.

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ABSTRACT

Ripple, David Alan. Ph.D., Purdue University, December, 1973.
The History of the Interstate Highway System in Indiana.
Major Professor: Harold L. Michael.

This work is a reconstruction of the planning, development and implementation of the Interstate Highway Program in Indiana as well as the Nation. The historical data for this record was gathered from Federal reports, documents, and legislation; Federal Highway Administration documents and interviews; Indiana State Highway Commission records and interviews; and other transportation related agency reports and interviews throughout Indiana.

Because of the voluminous amount of data involved, a combination of the stages of the systems analysis process and the highway planning and programming process was used in the reconstruction and presentation of the historical record.

The work begins with a description of the traditional role of transportation in the economy and the role of government in highway development. The need for an interregional super highway system and the goals and objectives of the Interstate Program are documented.

The development of the Interstate Program is traced from its conception in the late 1930's to the landmark legislation in 1956. The highway needs and programs developed by numerous studies during this period are described in detail.

The Interstate Program as set forth by the Federal Aid Highway Act of 1956 and its evolution are described in terms of policies on construction time, the utilization of manpower, the use of material and equipment, and financing. Under

financing, the report covers in great depth the apportionment of funds, federal participation, the use of funds, administrative policy, right-of-way acquisition, the inclusion of toll roads in the Interstate System and the reimbursement to States for completed Interstate sections.

All programs are subject to an evolution in policies and standards which ultimately affect the ultimate product. The research covers Interstate route location and selection, the route alternative evaluation process, the public hearing process, the A-95 Review Process (Project Notification and Review Process), the decision-making process and interagency cooperation, the environmental statement process and highway impact guidelines, policies on multiple use and joint development, the evolution of design standards with a heavy emphasis on safety in design, the evolution of interchange location and spacing, federal policies on fund participation, the evolution of landscape design including billboard and junkyard control, the evolution of the land acquisition process and the relocation process and other processes and policies.

Leaving the national scene, the work concentrates on designation of the Interstate Routes in Indiana, the formulation of the Indiana Interstate Program, and the historical development of the Indiana System. A description of studies and events leading to the development of each Interstate Route is covered in great detail.

Finally, the report assesses the relationship between revenues, expenditures, and cost completion estimates on the Interstate System. The progress of the Indiana System toward completion is documented on a fiscal year basis. A gross overview of the benefits and impacts of Interstate development on the citizens of Indiana concludes the presentation.

CHAPTER VII

PROGRAM REVIEW

This chapter is an overview of the progress of the Interstate System toward completion. Like other projects, the constraints in constructing the Interstate System were time, manpower, materials, and funding. Inter-governmental cooperation is the essential element that has manipulated these constraints to attain the goals of the Interstate Program. The basic relationship between costs and expenditures is developed to describe the effect of funding on Interstate construction progress.

Inter-Governmental Cooperation

The cooperation of Federal, State and local highway planning agencies insured that the construction of the Interstate System met the goals established for the System and was consistent with the planning objectives and programs of the nation and each locality. The Federal government established criteria for the selection of Interstate Routes to achieve the overall System goals of linking areas of population and industrial concentrations and serving strategic industry and military establishments. To insure the completion of the System on schedule and within the revenues allotted, the Federal government promulgated policies on Federal Aid Interstate fund participation in construction cost. Throughout the Interstate location, design and construction processes, the Federal Highway Administration reviewed the product to insure that it was the best for the money available.

Since the Interstate Program began, the Indiana State Highway Commission discussed location and design planning for each Interstate project with local officials. These meetings were to insure that the Interstate System provided adequate service to the area within the service corridor, that the highway grade separations and service roads would maintain adequate traffic service and circulation in the area, that the Interstate network properly interfaced with the existing highway network, and that the Interstate was compatible with local highway plans.

To obtain local concurrence in the final project proposal, the State encouraged the county commissioners and city officials to sign a limited access control resolution. The State could pursue construction without the resolution; however, the State felt that the passage of the resolution was important because the resolution signified local acceptance of the project and participation in the planning process.

In rural counties, the Indiana State Highway Commission dealt directly with the county commissioners. In counties with metropolitan areas, the Interstate projects were discussed within the framework of a county wide transportation coordinating committee composed of representatives from the Federal Highway Administration, Indiana State Highway Commission, county highway and planning agencies, and city highway and planning agencies. The coordinating committees provided the close cooperation needed to coordinate the construction of the Interstate System with planned and proposed improvements of the existing highway network.

In an effort to coordinate the Interstate System with local transportation planning, the Indiana State Highway Commission temporarily delayed some Interstate projects in the Calumet Area and the Indianapolis Metropolitan Area until the recommendations of ongoing urban transportation plans were compiled. Several modifications were made to the Interstate location and design to provide compatibility with the recommendations of urban transportation studies.

The public was given an opportunity to comment on the economic effects of every Interstate location. In addition and especially since January of 1969, the public has been encouraged to comment on the social and environmental effects of the location and the design of Interstate projects. The public hearings have resulted in numerous modifications to Interstate projects, many of which have been noted in earlier sections of this history.

The Federal Highway Administration and local officials have always reviewed Interstate project proposals. When an Interstate project might affect the programs or areas of responsibility of other State and Federal agencies, they were informed of the project proposal by the Indiana State Highway Commission. With the establishment of an areawide review agency in each metropolitan area, the project review process became quite formalized in 1966. The areawide review agency commented on the consistency of the Interstate projects in metropolitan areas with comprehensive planning.

Title IV of the Intergovernmental Cooperation Act of 1968 expanded the review process to all areas and led to the creation of the A-95 Review Process or the Project Notification and Review Process. Because numerous agencies were given the opportunity to review and to comment on Interstate projects, State, regional and metropolitan clearinghouses were designated to coordinate the review process. The clearinghouses and other agencies commented on the consistency of the proposed Interstate project with State and areawide development plans and objectives and on the extent to which the proposed project would implement these plans and objectives.

Beginning with the National Environmental Policy Act of 1969, the spectrum of environmental considerations in the review process has expanded. The A-95 Review Process has resulted in only minor modifications to Interstate design.

However, the A-95 Review Process was not in existence until the latter stages of the planning and design phases of the Interstate Program in Indiana or elsewhere.

Construction Progress

The Federal Aid Highway Act of 1956 more than doubled the size of the highway construction program in Indiana. In monetary terms, the highway construction program by the early 1970's had expanded to seven times its size in the 1950's. Because the staffing and operations of the Indiana State Highway Department were based on the low level of funding prior to August of 1956, Indiana got off to a slow start on the Interstate Program in terms of miles completed and under construction. The States that were able to proceed most rapidly to Interstate construction were those that had completed construction plans for several Interstate projects in advance and were merely awaiting funds.

Early Years

Although Indiana lacked a backlog of completed construction plans, the projects being developed at the time the Interstate Program began served as the basis for the initial Interstate construction in Indiana. Interstate 65 from Indianapolis to Lebanon was one of the first Interstate projects completed because the development of US 52 and US 41 as a four-lane divided highway from Indianapolis to Hammond was already underway. Indiana had improvement plans on file for the upgrading of US 52 and these were easily revised to Interstate standards.

As completion of Interstate 65 from Indianapolis to US 52 northwest of Lebanon created a four-lane facility from Indianapolis to Hammond*, the development of Interstate 65 north of Lebanon was delayed on the basis of priority until

*Except for the Lafayette Bypass.

later in the Interstate Program. The Tri-State Highway was also being developed at the time the Interstate Program began and was extended from Burr Street to Broadway (SR 53) to serve Gary. Because of the inadequacy of the Wabash River bridge at Covington, Illinois and Indiana early in the Interstate Program pursued the completion of Interstate 74 across the Wabash River.

Due to a dire need for additional Ohio River crossings in the Louisville Metropolitan Area to relieve congestion on existing bridges, Indiana and Kentucky began construction on new bridges from Louisville to New Albany (Interstate 64) and from Louisville to Jeffersonville (Interstate 65). At the time the Interstate Program began, Indiana was in the process of developing US 31 as a four-lane divided highway from Indianapolis to Louisville and had improved US 31 in Jeffersonville and from Indianapolis to Columbus.

Because Indiana had previously completed plans for improvement of some of the remaining portions of US 31 and because remaining two-lane US 31 was a critically deficient facility from Jeffersonville to Columbus, the Indiana State Highway Department proceeded to correct the deficiency. The portion of Interstate 65 from Jeffersonville to US 50 near Seymour was placed under construction contract in 1958 and 1959. The need for a US 40 bypass around Richmond resulted in the rapid development of plans and in early work on the Richmond bypass (Interstate 70).

Prior to the Interstate Program, plans had also been developed to replace inadequate US 421 from Indianapolis to Shelbyville. Several twin structures had already been built for a new four-lane US 421. Consequently, Indiana began construction on Interstate 74 from Indianapolis to Shelbyville.

Because US 136 was a two-lane facility west of Indianapolis, the portion of Interstate 74 from Indianapolis to SR 39 was placed under construction contract in 1959. To extend

Interstate 65 from Royalton around the west side of Indianapolis, construction was begun early on the extension of Interstate 65 to Interstate 465 and on the West Leg of Interstate 465 from Interstate 65 to US 40.

Due to the fact that Indianapolis lacked a bypass on the west side, that Interstate 465 followed the alignment of the proposed SR 100 bypass on the west side and that Interstate 65 had been completed to Indianapolis, construction of the West Leg of Interstate 465 was a logical starting point on Interstate 465.

In terms of Interstate progress, Indiana accelerated its Interstate Program from forty-sixth position at the beginning of 1957 to a position among the top ten States by the end of 1960. Through a careful review of highway development underway in August of 1956, the Indiana State Highway Department singled out projects that could be incorporated into the Indiana Interstate Program with minor revisions.

Consequently, Indiana was able to complete several Interstate projects within the first two to three years. If Indiana had developed all its Interstate projects from the conception stage, the State would have needed six to seven years to complete the first projects. The utilization of the existing highway development program in 1956 for Interstate work where possible enabled Indiana to continue an orderly construction of highways and to gradually expand operations. By the time projects which were initially developed prior to 1957 were exhausted, Indiana had firmly established its Interstate construction program and had new projects ready for construction.

By December of 1960, Indiana had opened twenty-five miles of new Interstate to traffic, had completed construction on ninety miles, and had placed another eighty-eight miles under construction. Including the 6.4-mile portion of the

Tri-State Highway completed prior to 1957 and excluding the Indiana East-West Toll Road, Indiana had thirty-one miles of Interstate highway open to traffic in December of 1960. [Refer to Figure 118(p.739) and Tables 40 and 41 (pgs.851 and 874)].

Urban Bypasses and Critical Gaps

By December of 1961, Indiana had eliminated many of the major deficiencies of the State highway network by completing those projects conceived before the Interstate Program began. Interstate 64 was completed across the Ohio River to Spring Street in New Albany relieving traffic on the old Kentucky-Indiana Toll Bridge. Interstate 65 was opened to US 50 near Seymour, leaving only a gap from Seymour to Columbus in the four-lane facility from Louisville to Indianapolis.

The Richmond bypass was completed to Centerville Road where through traffic returned to four-lane US 40 to continue to Indianapolis. At Covington, Interstate 74 was opened to a direct connection to US 136 near Layton. Interstate 74 was also opened from Indianapolis to southeast of Shelbyville and from Indianapolis west to SR 39. In September of 1961, Interstate 65 was opened from Royalton to Interstate 465, and the West Leg of Interstate 465 was completed from Interstate 65 to US 40.

Although Indiana began route location studies for the known Interstate Routes early in the Interstate Program, Indiana followed a general set of priorities in programming the routes for construction. Project priorities were generally based on the need to eliminate corridor deficiencies and to relieve congestion in metropolitan areas. Consequently, existing two-lane facilities coinciding with the Interstate were replaced before existing four-lane facilities.

Among the projects conceived after 1957, those which eliminated gaps in existing four-lane highways and provided urban bypasses were the first placed under construction. The

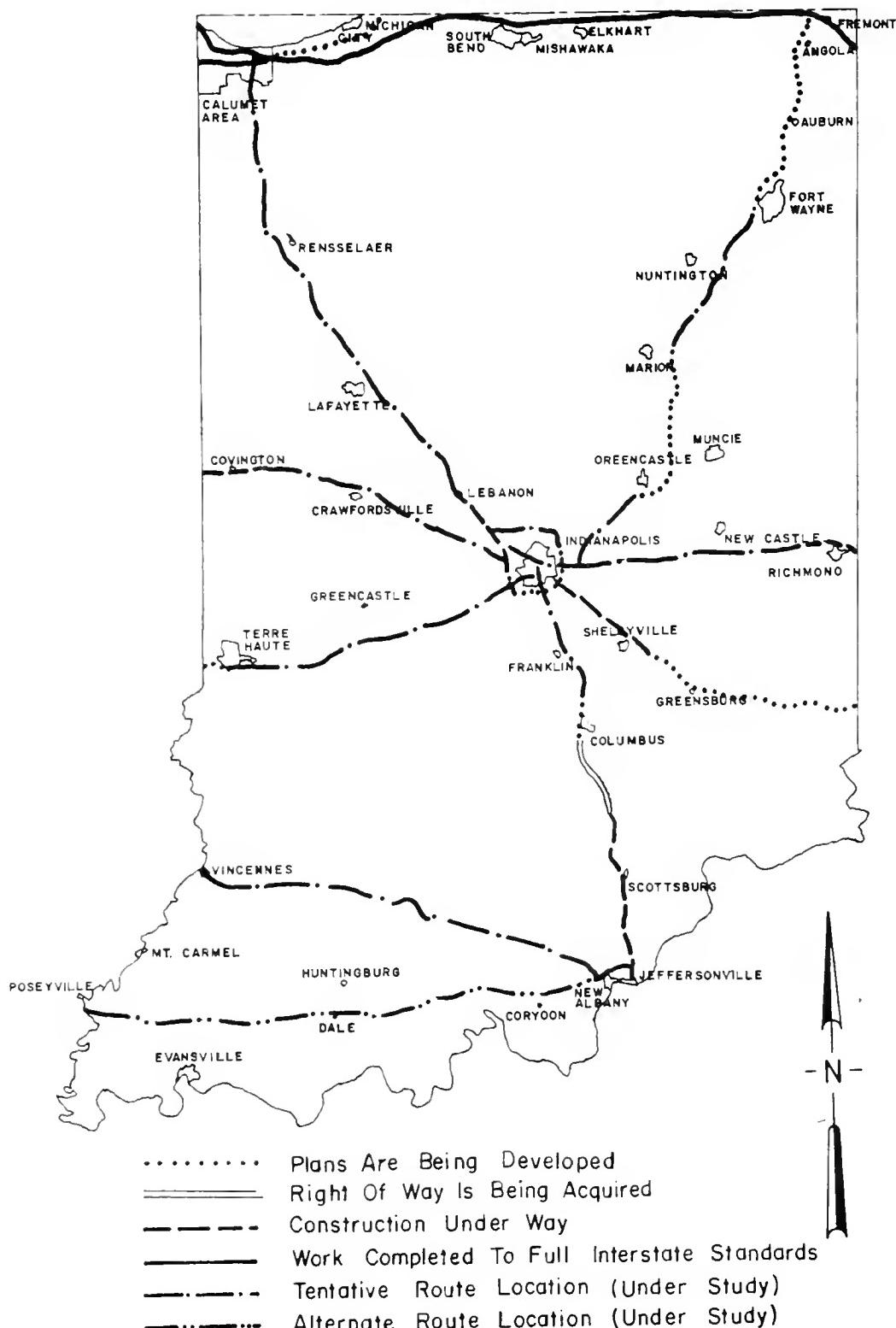


FIGURE 118. STATUS OF IMPROVEMENT OF INDIANA
INTERSTATE SYSTEM AS OF DECEMBER 31, 1960

Indianapolis to Lebanon gap in a four-lane facility from Indianapolis to Hammond* was closed in November of 1960 with the construction of a project conceived before 1957. On October 29, 1962, the gap in a four-lane facility from Louisville to Indianapolis was eliminated with the extension of Interstate 65 from US 50 near Seymour to US 31 near Taylorsville according to a project completely designed after 1957.

Except for US 24 - SR 37 from Huntington to Fort Wayne, there was no four-lane facility paralleling Interstate 69. As a result, Interstate 69 had a relatively high overall construction priority. Because of an acute need for a bypass of Fort Wayne, construction on Interstate 69 began in the Fort Wayne area in the summer of 1960. The Fort Wayne bypass was completed on October 23, 1962.

Because Interstate 70 paralleled existing four-lane US 40, Interstate 70 had a low construction priority except for the Richmond and Terre Haute bypasses, which were needed to relieve local congestion. The Richmond bypass was completed on September 17, 1961. Indiana had originally hoped to begin construction on the Terre Haute bypass in 1960; however, changes in interchange location and type and a change in the alignment of Interstate 70 through the strip mine area east of Terre Haute delayed construction until the latter half of 1964.

The concurrent construction of a four-lane connector from the temporary terminus of Interstate 70 east of Terre Haute to US 40 was also needed to insure the effectiveness of the bypass. On August 31, 1967, the Terre Haute bypass was opened from Illinois to SR 46 which was a four-lane connector to US40.

The construction on Interstate 74 was given precedence over other routes because this route replaced an existing two-lane facility along its entire corridor, construction

*Except for the Lafayette Bypass.

plans could be completed before most routes, and the terrain in the corridor lent itself to rapid construction enabling Indiana to more quickly utilize Interstate funds. Less time was needed to place Interstate 74 under construction than other routes because plans had been developed for the portion of the route from Indianapolis to Shelbyville before 1957, the design for the remainder of the route after 1957 was less complex than other routes, and the acquisition and clearance of right-of-way was less complicated than other routes.

Plans had been developed for a portion of Interstate 74 from Indianapolis to Cincinnati prior to 1957 and the route from Indianapolis to Cincinnati connected two major metropolitan areas. As a result, the route from Indianapolis to Cincinnati was completed on October 30, 1964, before the route west from Indianapolis.

Construction on the five-mile section of the Tri-State Highway from SR 51 to the Indiana Toll Road was begun in 1960; however, the complexity of coordination with local improvements delayed completion of the section until November of 1964.

To divert Interstate traffic around Indianapolis and to evenly distribute Interstate traffic to the urban area, Indiana pressed for extension of Interstate 465 around the south edge of Indianapolis to existing four-lane Shadeland Avenue (SR 100 bypass). The completion of Interstate 465 to Shadeland Avenue on October 15, 1964, provided a four-lane bypass facility from Interstate 65 northwest of Indianapolis to 56th Street northeast of Indianapolis.

As of January 1, 1964, Indiana had opened 264 miles (excluding the Indiana Toll Road) of the Interstate to traffic, had completed another seven miles, and had another 120 miles under construction. Including the Indiana Toll Road, thirty-eight percent of the 1115 miles of designated Interstate mileage in Indiana was open to traffic. This

percentage was only three percent below the National average. [Refer to Figure 119(p.743) and Table 40 (p.851)].

In 1963, overall route construction emphasis shifted from Interstate 74 to Interstate 69. Interstate 69 was constructed northward from SR 38 near Pendleton and northward from the Fort Wayne bypass. On June 27, 1966, the northward construction of Interstate 69 from Pendleton reached the Fort Wayne bypass. As of October 9, 1967, Interstate 69 was open to traffic from the Michigan-Indiana State Line southward to SR 38. [Refer to Table 41 (p.874)].

In 1964, construction on Interstate 74 was resumed westward from SR 39 to the temporary connection with US 136 near Layton. On August 31, 1967, the last section of Interstate 74 was opened to traffic. Interstate 74 was the first Interstate route completed across Indiana.

The Indiana Interstate Program was in high gear in the mid-1960's. On January 1, 1968, the State had completed fifty-seven percent of the System excluding the Indiana Toll Road and had another sixteen percent of the System under construction. Indiana had opened fifty-eight percent of the System to traffic including the Indiana Toll Road.

[Refer to Figure 120(p. 444) and Tables 40 and 41 (pgs.851 and 874)].

System Extension

This period was characterized by the replacement of parallel four-lane facilities temporarily carrying Interstate traffic and by the inward construction of the Indianapolis Interstate radials.

In the six years following the completion of the Richmond bypass in 1961, only one segment of Interstate 70 had been opened to traffic. This segment was the extension of Interstate 70 from the Centerville Road (west of Richmond) to relocated SR 1 on August 30, 1963. Because an existing four-lane facility paralleled Interstate 70 for its entire length,

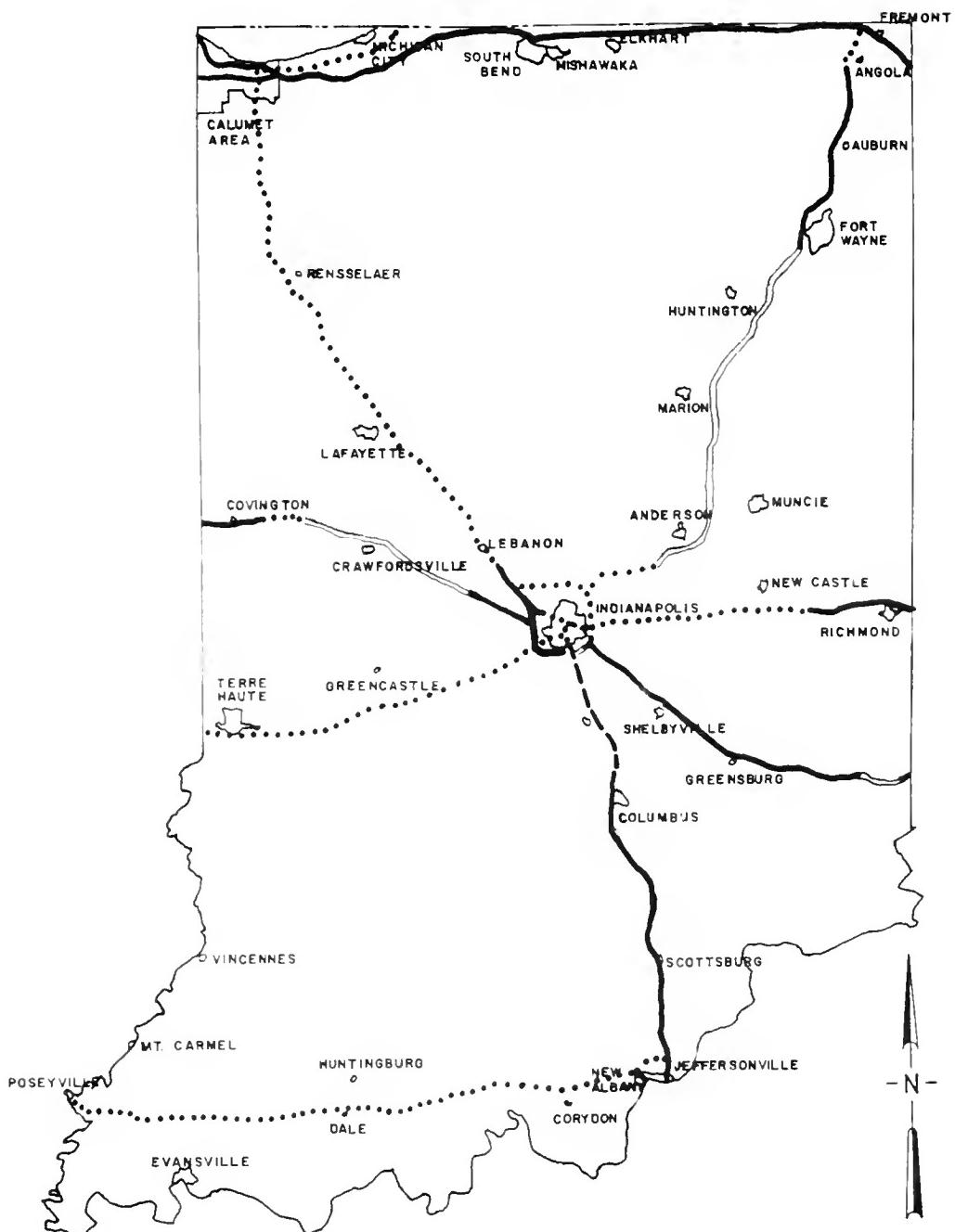


FIGURE 119. STATUS OF IMPROVEMENT OF INDIANA INTER-STATE SYSTEM AS OF JANUARY 1, 1964

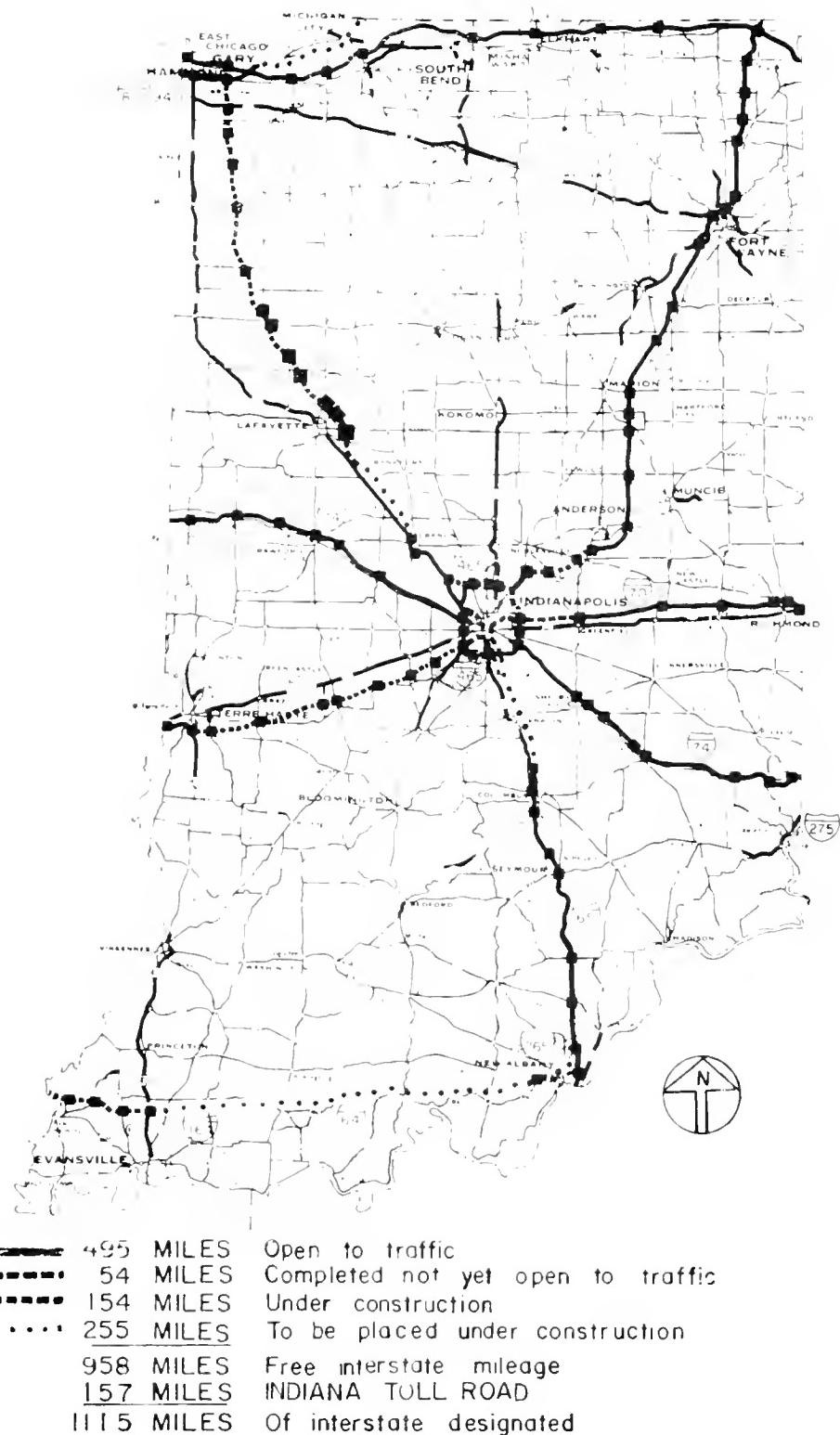


FIGURE 120. STATUS OF IMPROVEMENT OF INDIANA
INTERSTATE SYSTEM AS OF JANUARY 1, 1968

it had a lower overall route priority than Interstates 69 and 74. After a majority of Interstates 69 and 74 had been completed, the construction emphasis shifted to Interstate 70 in 1965.

Interstate 70 was constructed westward from SR 1 to Indianapolis. The portion of Interstate 70 from the Ohio-Indiana State Line to Interstate 465 was opened to traffic on December 2, 1968. On the portion of Interstate 70 west of Indianapolis, the route was constructed eastward from Terre Haute to SR 43, eastward from SR 43, and westward from Interstate 465.

On August 31, 1967, Interstate 70 was opened from the Illinois-Indiana State Line to SR 46. The segment of Interstate 70 from SR 43 to Interstate 465 was opened on August 30, 1968. The remaining segment of Interstate 70 west of Indianapolis was opened on October 21, 1969, with the completion of the facility between SR 46 and SR 43. Excluding the portion of Interstate 70 within Interstate 465, Interstate 70 was the second route completed across Indiana.

Since Interstate 465 served as a bypass route for through Interstate traffic and as a distributor route for terminating Interstate traffic and crosstown traffic, the construction of Interstate 465 was partially geared to the construction of the other Interstate routes toward Indianapolis. Interstate 465 was completed from Interstate 65 (northwest of Indianapolis) to SR 100 (southeast of Indianapolis before Interstate 74 was opened between Indianapolis and Cincinnati in October of 1964).

Before Interstate 70 was opened east of Indianapolis on December 2, 1968, Interstate 465 was extended from SR 100 to SR 67 - US 36 north of Interstate 70. The construction of Interstate 465 on the northside of Indianapolis complemented Interstate 465 around the southside of Indianapolis although the North Leg of Interstate 465 also served as a bypass and distributor route for local traffic. When

Interstate 69 was opened from SR 238 to SR 37 on October 5, 1970, the remainder of Interstate 465 was opened.

In late 1966, construction was resumed on Interstate 69 westward from SR 38 to Interstate 465. When the upgrading of existing SR 37 was completed on November 16, 1971, Interstate 69 was the fourth route completed across Indiana.

To link with the new bridge between Louisville and Jeffersonville, existing US 31E was upgraded to Interstate standards in Jeffersonville in November of 1964. In 1968, construction emphasis shifted from Interstate 70 to Interstate 65. Because US 40 had carried heavier traffic than US 31, US 52 and US 41, the completion of Interstate 70 had been emphasized over the completion of Interstate 65.

North of Indianapolis, Interstate 65 progressed southward from the Indiana Toll Road. The last segment of Interstate 65 north of Indianapolis was opened on December 15, 1971. Construction on Interstate 65 south of Indianapolis resumed northward from US 31 near Taylorsville and southward from Interstate 465. Interstate 65 from Indianapolis to Louisville was opened to traffic on June 30, 1972 with the completion of the projects between SR 252 and Southport Road. Interstate 65 was the fifth route completed across Indiana.

The Tri-State Highway was completed to the Indiana Toll Road in November of 1964, but then its overall construction priority fell below Interstates 65, 69, 70 and 74 because the Indiana Toll Road and several primary routes served the same corridor and coordination with other highway improvements in the corridor proved more complex than the other Interstate routes. Except for the extension of Interstate 94 from the Indiana Toll Road to SR 249 (Crisman Road) on August 15, 1969, there was no construction on the remainder of Interstate 94 until 1969.

In 1967, the widening of bridges on the Tri-State Highway from the Illinois-Indiana State Line to Indiana Toll Road was

begun to provide sufficient clearance for a third lane each direction in the median. The construction of the third lane was completed on October 31, 1969.

Since Interstate 94 was not completed between the Indiana Toll Road and the Indiana-Michigan State Line, much of the Interstate 94 through traffic followed the Indiana Toll Road to two-lane SR 39 and continued on SR 39 to Interstate 94 in Michigan. As two-lane SR 39 approached capacity, it was evident that SR 39 would have to be rebuilt to four lanes or construction would have to start on the remainder of Interstate 94. On November 29, 1971, Interstate 94 was extended eastward from SR 249 to US 20 (east of Portage) and southward from the Michigan-Indiana State Line to US 20-35 (southeast of Michigan City) removing the Interstate traffic load from SR 39. The remainder of the Tri-State Highway was opened to traffic on November 2, 1972.

Although location planning began in 1957 for the Interstate System inside Interstate 465, the Indianapolis Interstate projects could not be brought rapidly to the construction stage because of complex coordination with local transportation planning, complicated design work, extensive utility relocation, complex right-of-way acquisition and clearance, and extensive household and business relocation. The complexity of Interstate projects also increased as the radial routes approached the urban core; consequently, the Interstate radials were constructed from Interstate 465 inward.

When the South Leg of Interstate 465 was completed in October of 1964, the South Route of Interstate 65 was constructed from Interstate 465 to Keystone Avenue. In July of 1964, the Northwest Route of Interstate 65 was completed from Interstate 465 to Lafayette Road. The next radial segment opened was the extension of the Northwest Route inward to 38th Street on Decmeber 17, 1967.

When Interstate 70 was completed east of Indianapolis on December 2, 1968, the East Route of Interstate 70 was opened from Interstate 465 inward to Shadeland Avenue (SR 100). The West Route of Interstate 70 was opened from Interstate 465 to Holt Road on December 10, 1969, completing the construction of the Interstate radials in the suburban area of Indianapolis.

Because the Northwest Route was needed to relieve volumes on the arterials in the north-south corridor north of the urban core, the extension of the Northwest Route to the core was emphasized over the other radials. On January 21, 1972, the Northwest Route was completed to the Illinois Avenue interchange on the North Leg of the Inner Belt.

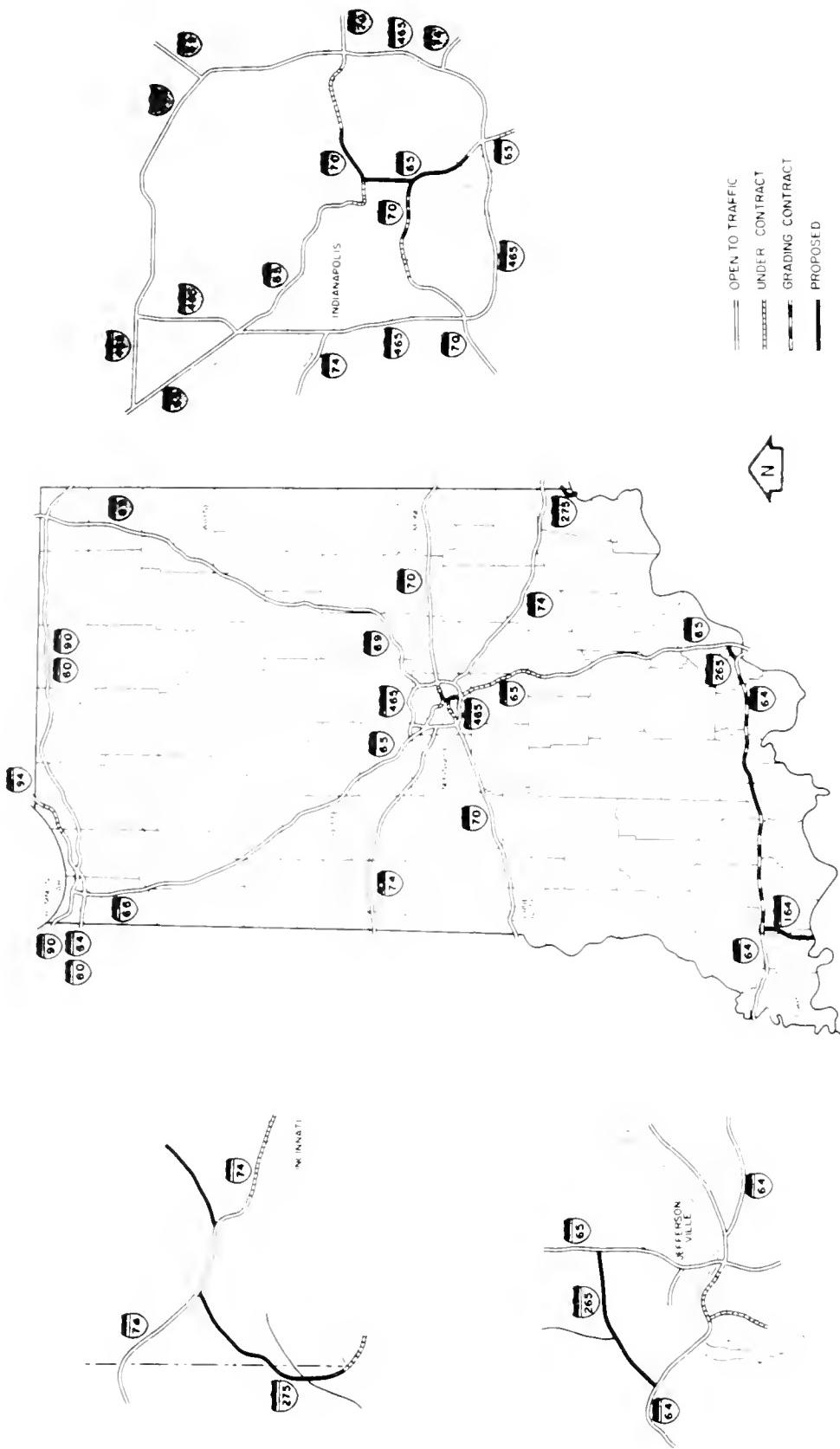
As of December 31, 1971, Indiana had opened eight-five percent (963 miles) of the 1134 miles of Interstate to traffic. Excluding the 157-mile Indiana Toll Road and the five-mile extension of the West Leg of Interstate 465 from Interstate 65 to the North Leg of Interstate 465, Indiana had completed eight-two percent of its Interstate System. Another twenty-seven miles were completed but not open to traffic and yet another eighty-six miles were under construction as of December 31, 1971. [Refer to Figure 121 (p. 749) and Tables 40 and 41 (pgs. 851 and 874).]

Since 1960, Indiana was among the top ten States in regard to Interstate mileage completed and under contract. Indiana moved up to fourth place among the States by the end of 1971.

Completing the System

The first years of the construction period following 1971 were characterized by the withholding of Federal aid highway funds, the reduction of Indiana's Interstate apportionment as the Indiana Interstate System neared completion, and a national deemphasis on completion of the Interstate

FIGURE I21. STATUS OF IMPROVEMENT OF INDIANA INTERSTATE SYSTEM AS OF DECEMBER 31, 1971



Program. Because of decreased funding for the Interstate System, construction on the Indiana Interstate System began to slow down. During the latter part of the Interstate Program, the Indianapolis Interstate radials will be extended from their suburban terminii to the urban core and Interstates 64, 164, 265, and 275 will be completed.

Although the Interstate 64 corridor lacked an existing four-lane route, this Interstate route had a lower construction priority than Interstates 65, 69, 70, 74, I-80-94, and 465 because it carried far lower volumes. Interstate 64 was extended from Spring Street to SR 64 on July 1, 1968, to reduce through traffic in the New Albany area. By September of 1971, Interstate 64 was also open to traffic from the Illinois-Indiana border to SR 57 northeast of Evansville.

In late 1970 Interstate construction emphasis shifted from the Tri-State Highway (Interstate 94) to Interstate 64. As of December 31, 1972, 70.10 miles of Interstate 64 were under construction. Only 18.32 miles between SR 162 and SR 37 had not yet been placed under contract.

The development time for the Interstate within the Indianapolis central city was longer than other routes because of the complexity of coordination, design, land acquisition, and relocation. Since the construction of the Interstates within the Indianapolis urban area were in the latter part of the Interstate construction program, this construction was most affected by the reduction in Interstate funding.

As of January 21, 1972, the Northwest Route in the central city and the north Leg of the Inner Belt had been completed. Although not open to traffic, short segments of Interstate were completed between Holt Road and Belmont Avenue on the West Route, between Keystone Avenue and State Avenue on the South Route, and between Ritter Avenue and Shadeland Avenue on the East Route by the end of 1972.

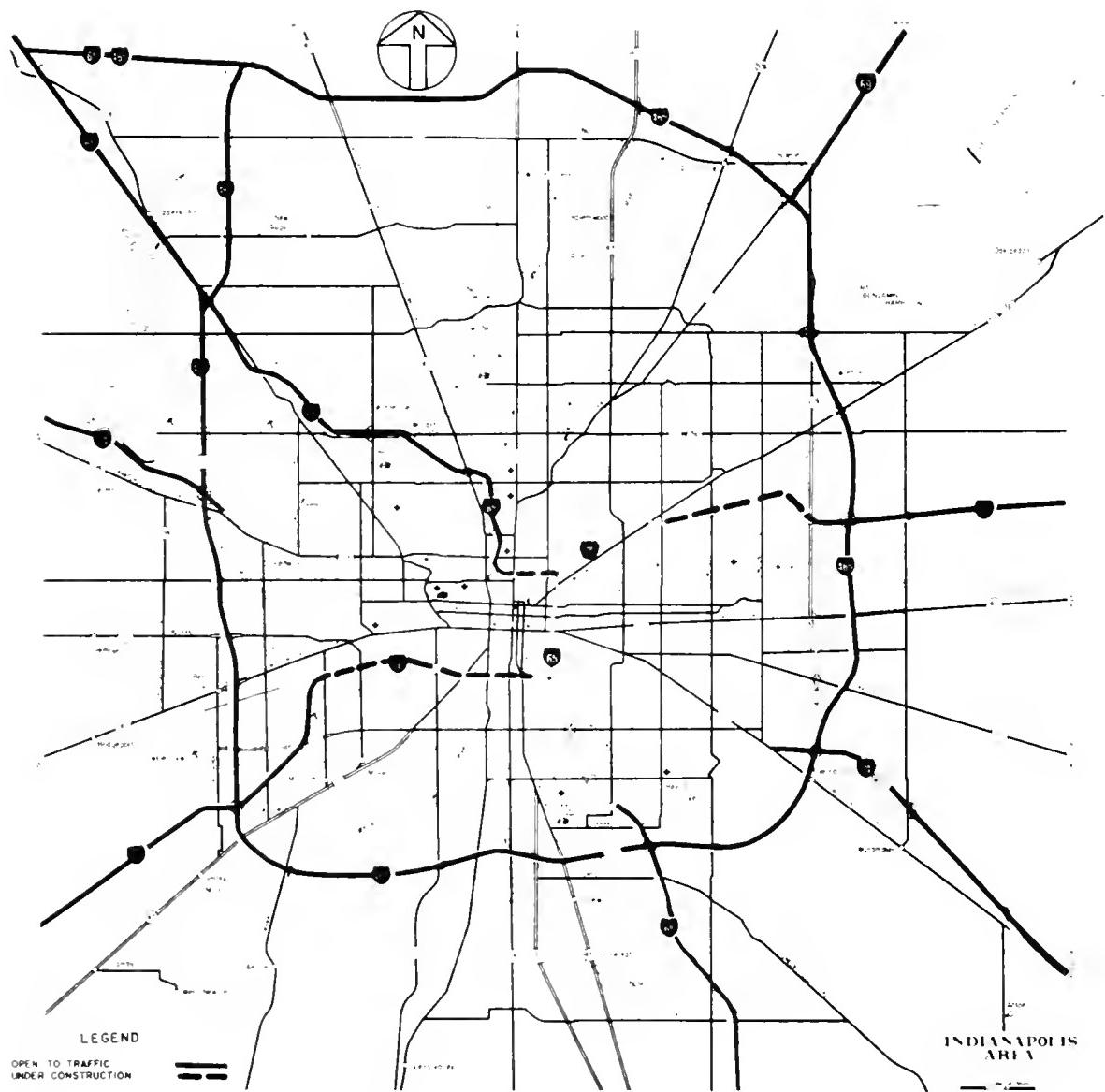
As of December 31, 1972 construction was underway on the West Route from River Avenue to Madison Avenue (some structures only) and on the East Route from a half mile east of Sherman Drive to west of Ritter Avenue. Only 8.86 miles(2.25 miles of the East Leg of the Inner Belt common to Interstates 65 and 70) had not yet been placed under construction contract. [Refer to Figure 122, p. 752].

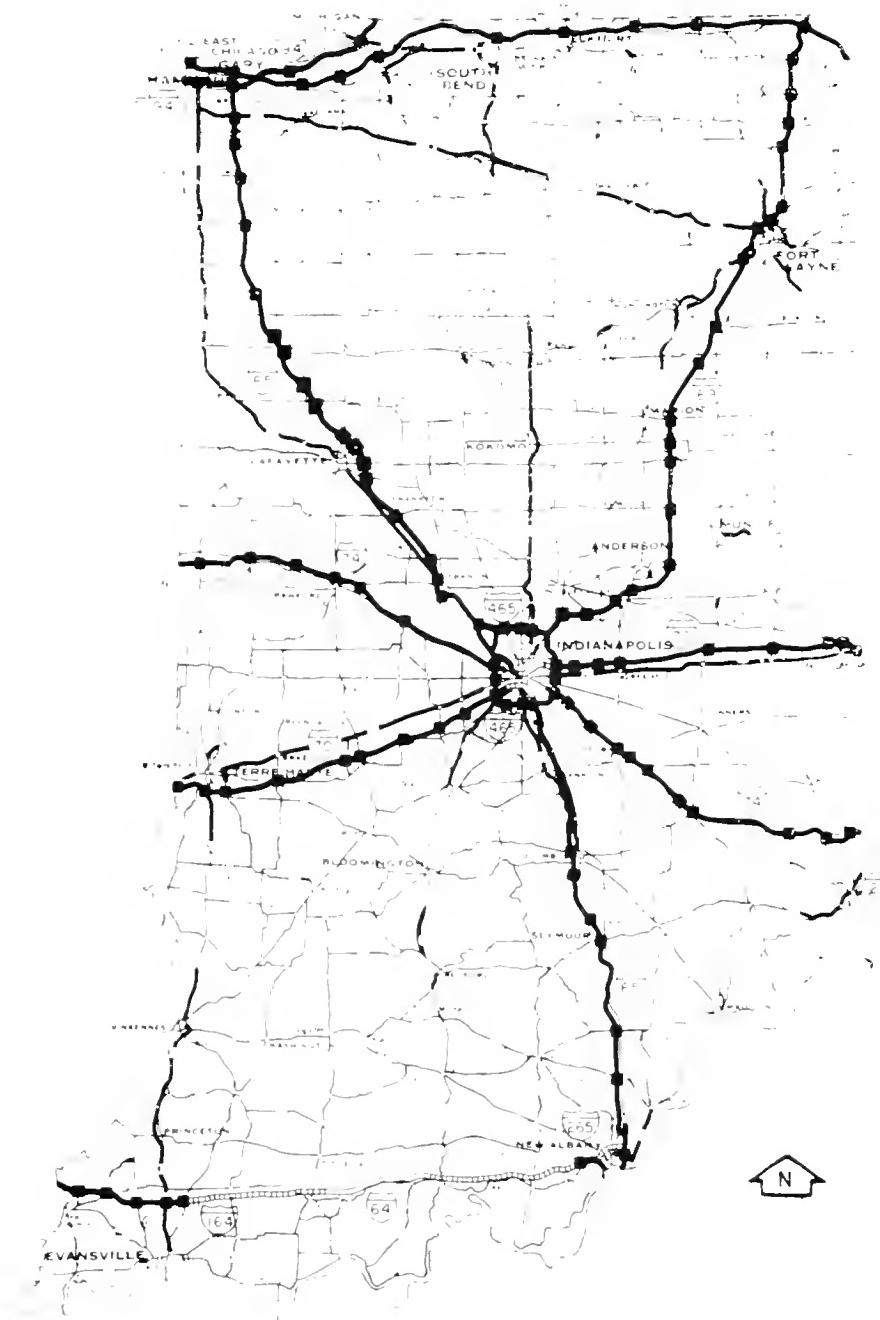
Interstate 164 was a 1968 addition to the Indiana Interstate System. At the end of 1972, Interstate 164 was still in the preliminary location phase and had not reached the point at which a corridor public hearing could be held. Because Interstate 164 was the last route added to the Indiana Interstate System, it inherently had the lowest construction priority due to time needed for development.

Because Interstates 265 and 275 supplemented other Interstate routes, their construction was scheduled for the latter part of the Interstate Program. As of September 15, 1972, all grading and structures were under contract on Interstate 265. In November of 1970, construction began on the \$16 million Interstate 275 bridge across the Ohio River. Although funding cutbacks have delayed construction on Interstate 275, the segment of Interstate 275 from the Ohio River to US 50 was placed under contract for grading and the US 50 structure.

As of December 31, 1972, Indiana had opened 1005 miles of Interstate to traffic, had completed another five miles, and had placed eighty-one miles of the System under construction. [Refer to Figure 123 (p. 753) and Table 40 and 41 (pgs. 851 and 874)]. All engineering, right-of-way acquisition and relocation had been completed for all remaining segments of the Indiana Interstate System except Interstate 164.

Excluding the 4.96 miles of the West Leg extension of Interstate 465 (which was added to the Interstate System without mileage charge) and the 156.85 miles of the Indiana





<u>—</u>	5 MILES	Completed not yet open to traffic
<u>—</u>	848 MILES	Open to traffic
<u>—</u>	81 MILES	Under construction
<u>—</u>	43 MILES	Yet to be placed under construction
<u>—</u>	977 MILES	Of free road
<u>—</u>	157 MILES	Of INDIANA TOLL ROAD open to traffic
<u>—</u>	1134 MILES	Total system mileage

FIGURE 123. STATUS OF IMPROVEMENT OF INDIANA
INTERSTATE SYSTEM AS OF DECEMBER 31, 1972

Toll Road, Indiana had completed eighty-seven percent of the System on the basis of mileage and roughly seventy-five percent of the System on the basis of cost. As of June 30, 1972, the Nation had only completed eighty percent of the Interstate System. [Refer to Figure 124 , p. 755].

Costs

For fiscal years 1957, 1958 and 1959, the Federal Interstate funds were apportioned to each State on the basis of an empirical formula. The empirical formula was equal to two-thirds the ratio of the population of each State to the total population of all the States, one-sixth the ratio of the land area in each State to the total area of land of all the States, and one-sixth the ratio of the mileage of rural delivery routes and star routes of each State to the total mileage of these routes in all the States.

Since Congress wanted the Interstate System completed simultaneously throughout the States, the apportionment of Federal Interstate funds for the fiscal years after 1959 was based on the cost of completing the System in each State. For fiscal years 1960 through 1966, the apportionment ratio for each State was the ratio of the total Federal and State cost of completing the Interstate System in that State to the total Federal and State cost of completing the Interstate System in all the States. After fiscal year 1966, the apportionment ratio was based on the Federal share of the completion cost rather than the Federal and State share of the completion cost.

Interstate Cost Estimate Studies

Because the cost of completing the Interstate System within a State might vary with time, Congress requested a series of estimates of the cost of completing the Interstate

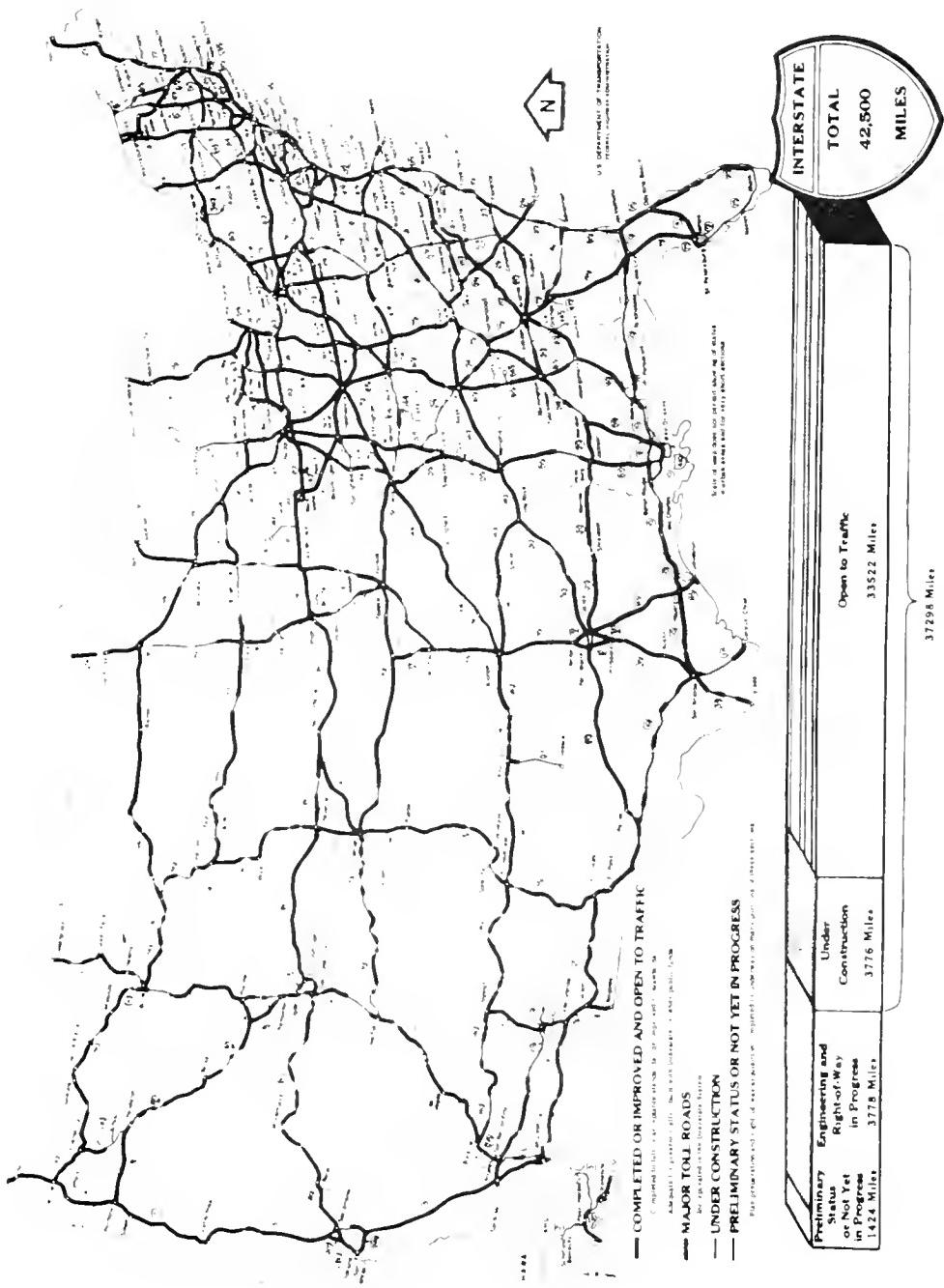


FIGURE 124. NATIONAL STATUS OF IMPROVEMENT OF INTERSTATE SYSTEM AS OF JUNE 30, 1972

System in section 108(d) of the Federal Aid Highway Act of 1956 and subsequently in section 104(b)5, Title 23, of the United States Code. The series of estimates were designed to enable Congress to adjust the Interstate apportionments so that each State had sufficient funds to complete its portion of the System concurrently with the System in other States. The revised estimates also eliminated the possibility of a State being penalized throughout the Interstate Program for an earlier poor cost estimate.

To insure uniformity in the preparation of the cost estimates throughout the States, the Federal Highway Administration developed an Instruction Manual for the Preparation and Submission of the Revised Estimate of Cost of Completing the Interstate System. The manual established provisions for the preparation of the estimate; outlined a method for forecasting traffic; and referred to standards, guidelines, specifications, and Federal memoranda to be used in the preparation of the estimate. The manual was revised for each estimate to reflect changes in laws and standards.

In preparing each cost estimate, a specific date was selected as the cutoff date. All Federal aid work authorized prior to the cutoff date was considered as having been completed under the existing financial arrangements. Consequently, the cost of work for which funds had been obligated was excluded from the cost estimate.

To provide a uniform basis for the cost estimates, a specific time period was selected for the unit construction costs. The unit construction costs were based on the weighted low bid prices in each State for construction awarded during that period.

The cost estimates were an estimate of the cost to complete the System if the construction was performed at the unit prices of the base period. There was no adjustment for inflation. Moreover, the cost estimates were based on existing

factors and excluded any forecast of future trends except increases in traffic.

1958 Cost Estimate. The Federal Aid Highway Act of 1944 authorized the designation of a 40,000-mile Interstate System. On August 2, 1947, a total of 37,681 miles of the System was designated. In September of 1955, the remaining mileage was designated. The Federal Aid Highway Act of 1956 increased the length of the System from 40,000 miles to 41,000 but excluded the 1,000-mile extension from the cost estimate to be used for apportionment purposes. Since adjustments in the originally designated 40,000 miles resulted in a savings of 1,452 miles, the Secretary of Commerce was able to designate an additional 2,102 miles of Interstate highways and reserved 350 miles for final adjustments.

[Refer to Table 13, p. 758].

The 1958 Interstate Cost Estimate was based on the cut-off date of July 1, 1956, and on unit construction costs of the last half of calendar year 1956. The estimate was based on the cost to complete 38,548 miles of the System. The 1958 Interstate Cost Estimate reported that \$39,510 million was needed to complete the Interstate System.

The Indiana State Highway Commission estimated in 1958 that it needed \$1,068 million to complete the Interstate System in Indiana. When the funds already available were excluded from the cost estimate, Indiana needed \$927,049,000 in additional funds to complete the Interstate System. For fiscal years 1960, 1961, and 1962, the factor for apportioning Interstate funds to Indiana was 2.888 percent. [Refer to Table 14, p. 759]. Table 115(p.760) records the cost of completing the Interstate System in Indiana by route.

1961 Cost Estimate. The apportionment of funds for fiscal years 1963 through 1966 was based on the 1961 Interstate Cost Estimate which was presented to Congress in January of 1961.

TABLE I3. INTERSTATE MILEAGE DESIGNATED
(IN MILES)

Date	Indiana			National			Legislative Limitation (Total)	Included in Interstate Cost Estimates by the States
	Rural	Urban	Total	Designated Length	System Additions, Locations Approved	Mileage Reserved for Final System Adjustment		
12/20/44							40,000	
8/2/47				37,681	—	2,319	—	40,000
1948	9060	159.4	10655.4	37,800	—	2,200	—	40,000
6/30/54	884	184	1068	37,700		2,300	40,000	40,000
9/15/55				40,000			40,000	—
6/29/56		1090	40,000		1,000		41,000	—
7/1/56				38,548	2,102	350	41,000	38,548
10/18/57		1089.4	38,548		2,102	350	41,000	—
1/1/60		118.8	40,472		220	308	41,000	40,472
1/1/64		114.5	40,886		93	21	41,000	40,886
1/1/67		115.1	40,969	—	—	31	41,000	40,969
1/1/69		1129.4	42,495	—	—	5	42,500	42,495
1/1/71		1129.4	42,497	—	—	3	42,500	42,497
1/1/73		11294						

TABLE 14. FUNDS REQUIRED TO COMPLETE INTERSTATE SYSTEM¹

(THOUSANDS OF DOLLARS)

Year of Interstate Cost Estimate	Cutoff Date for Estimate	States	Estimate of Preliminary Engineering Way	Costs to Complete System	Construction Bond Projects and Advanced Construction Project Obligations	Subtotal	Less Amounts Already Available	Estimate of Unobligated State Funds Balance as of Cutoff Date for Cost Estimate	Estimate of Amount Financed With Other Than FAI and State Matching Funds	FAI and State Matching Funds Required to Complete System	Subtotal	Federal Share of Funds Required to Complete System	Apportionment Factors Required to Complete System	Percent For Fiscal Years			
1958	7/1/58	Ind.	\$5,692	\$75,112	-----	\$110,724	\$12,448	\$9,414	\$6,699	-----	\$22,749	\$3,324,344	2,984	1,760			
	All	-----	126,449	4,690,000	4,690,000	-----	972,262	145,136	8,833	1,840,476	7,398,732	32,145,055	29,075,440	100,000	1762		
1961	1/1/56	Ind.	1,925	1,290	735,711	-----	62,437	6,960	126,287	14,032	-----	2,79,716	636,723	573,048	2,505	1,723	
	All	-----	-----	4,61,431	4,61,431	-----	230,267	3,290,006	347,407	1,401,081	7,466,821	25,461,915	22,915,724	100,000	1,762		
1965	1/1/60	Ind.	1,934	1,351	214,512	35,409,735	2,159,101	-----	-----	15,423	-----	231,912	462,955	404,055	2,148	1,767	
	All	-----	-----	23,364	23,364	-----	680,867	69,115	7,568	140,606	3,062,838	321,151	1,326,551	19,385,737	100,000	1,762	
1968	1/1/57	Ind.	6,099	3,240,519	539,424	29,723	570,156	81,283	9,027	94,650	10,517	-----	195,437	379,719	337,247	1,795	1,770
	All	-----	-----	3,139,468	21,840,378	4,638,367	27,028,645	3,604,213	389,635	3,338,238	353,218	1,462,282	9,233,526	19,689,113	16,203,882	100,000	1,762
1970	1/1/57	Ind.	5,522	3,485	409,820	-----	423,901	75,179	8,351	13,614	1,513	-----	98,658	353,2485	232,721	1,417	1,722
	All	-----	-----	3,24,529	26,087,524	223,090	39,270,488	3,961,200	407,692	1,851,210	1,96,474	1,112,269	7,428,845	22,841,663	20,653,686	100,000	1,773
1972	1/1/71	Ind.	5,420	7,766	400,528	-----	414,714	54,443	6,069	67,583	7,509	-----	169,059	246,555	221,090	1,214	1,774
	All	-----	-----	22,307,255	28,864,956	255,466	22,650,377	3,924,600	413,834	5,835,824	618,505	1,260,643	12,723,411	20,146,986	18,218,301	100,000	1,725
1974	1/1/73	Ind.	-----	22,420	-----	-----	-----	38,390	-----	-----	635,604	-----	-----	-----	1975		

*For fiscal years 1957, 1958, and 1959.

Federal Share of estimated total cost in Indiana is 70%; however, Federal Share of estimated total cost in some States is greater than 90%.

Apportionment factors for fiscal years 1960 through 1966 were based on the ratio of estimated cost of completing the Interstate System in each State to the estimated cost of completing the Interstate System in all States (Interstate and State Matching Funds compared). In subsequent fiscal years the apportionment factors were based on a Federal Share comparison.

TABLE 15. ESTIMATE OF COST OF COMPLETING THE INTERSTATE SYSTEM
IN INDIANA BY ROUTE²

(THOUSANDS OF DOLLARS)

Base Date for Cost Estimate	Tri-State										Indiana Toll Road			Total			
	I-64	I-65	I-69	I-70	I-74	I-80-94	I-94	Elkhart-Kalamazoo	I-90	I-80-90	I-164	I-265	I-275	I-465	Total		
12/31/48 ^a															289,437	389,437	0
6/30/54															867,000	867,000	0
7/1/56	111,722	321,073	143,716	195,003	128,532	58,523	1,907	0	0	0	---	---	---	97,300	1,057,776	1,057,776	0
1/1/60	112,483	246,946	125,120	149,202	83,526	17,730	29,920	0	0	0	8,522	8,522	72,987	846,436	846,436	0	
1/1/64	124,302	229,527	34,248	156,237	16,175	11,618	35,176	0	0	0	9,349	16,938	47,197	680,867	680,867	0	
1/1/67	110,160	203,066	15,504	98,709	12,079	12,616	52,786	0	0	0	12,025	18,997	34,214	570,156	570,156	0	
1/1/69	131,571	114,113	21,144	73,406	21,026	6,624	18,844	0	0	0	20,045	16,511	20,266	16,367	460,007	460,007	0
1/1/71	114,972	69,591	15,312	63,357	16,822	7,212	11,054	20,151	13,063	27,936	17,272	24,959	13,915	414,714	381,500	33,214 ^f	1134,1 ^f
1/1/73	79,293	96,448	17,471	54,183	18,639	9,353	6,730	26,470	17,632	28,572	5,710	11,897	20,992	383,390	317,786	65,604 ^f	1134,1 ^f
1/1/73 h	78,131	79,394	14,454	51,025	16,441	9,353	5,511	0	0	28,572	5,710	11,897	17,288	317,786	317,786	---	1134,1 ^f

^aUpgrading System on existing alignment to tolerable standards.

^bLater increased to \$1,067,754,000 to include a \$597,000 increase for preliminary engineering and a \$9,361,000 increase in construction.

^cLater reduced to \$423,903,000 to exclude \$36,104,000 for the widening of structures to shoulder width on previously completed projects.

^dLater decreased to \$13,652,000 to exclude \$251,000 for the West Leg extension of Interstate 465 which was added to the Interstate System without cost.

^eLater increased to \$33,475,000 to include \$261,000 cost of West Leg extension of Interstate 465.

^fIncludes 4.7 miles of the West Leg extension of Interstate 465 which was included in the Interstate System without mileage or cost charge.

^gIncludes \$21,502,000 in Federal Aid Primary Purists and \$4,102,000 in Toll Road Revenues for bridge deck reconstruction.

^hCost of completion estimate by route to be financed only with Interstate and State matching funds.

The cost estimate was based on the cutoff date of January 1, 1960, and on the unit prices of fiscal 1959. The Federal Aid Highway Act of 1960 removed the restriction of the 1956 Act that excluded the 1000-mile extension from the cost estimate and apportionment. The States prepared estimates for the 40,472 miles of Interstate that were designated as of January 1, 1960. The cost of the 220 miles which were not finally located, was included by the Bureau of Public Roads in the total cost estimate at one million dollars per mile. The Bureau of Public Roads also included 308 miles, which were reserved for final adjustment, in the total cost estimate at one million dollars per mile.

According to the 1961 Interstate Cost Estimate, \$32,909 million was needed to complete the Interstate System. Indiana's share of the cost was \$846 million. Excluding the funds already available, Indiana needed \$636,720,000 in additional Federal and State funds to complete the System. The apportionment factor for fiscal years 1963 through 1966 was 2.501 percent for Indiana.

1965 Cost Estimate. For fiscal years 1967 through 1969, Interstate apportionments were based on the 1965 Interstate Cost Estimate.

This cost estimate was based on the unit prices of calendar year 1963 and on the cutoff date of January 1, 1964. The States submitted cost estimates for 40,886 miles of the System. Only 93 miles were not finally located and these were included in the total estimate by the Bureau of Public Roads at five million dollars per mile. The Bureau of Public Roads also included twenty-one miles, which were reserved for final measurement, in the cost estimate at five million dollars per mile.

The 1965 Interstate Cost Estimate reported that \$28,058 million was needed to complete the Interstate System. The Indiana Interstate cost estimate found that \$681 million

was needed to complete Indiana's portion of the System. Excluding the funds already available, Indiana needed \$404,060,000 in additional Federal apportionments to complete the System. Indiana's share of the total Federal apportionments for completing the System was 2.198 percent for fiscal years 1967 through 1969.

1968 Cost Estimate. In January 1968, the 1968 Interstate Cost Estimate was submitted to Congress for the apportionment of Interstate funds for fiscal year 1970. Through the Federal Aid Highway Act of 1968, Congress adopted the apportionment factors of the 1968 estimate for fiscal years 1970 and 1971.

The cost estimate was based on the cutoff date of January 1, 1967, and on the unit prices of calendar year 1966. The States submitted cost estimates for 40,969 miles of the System. Most of the route segments in the 93-mile group, which had not been finally located in January 1, 1964, were located by January of 1967 and were included in the States' estimates. The Federal Highway Administration held thirty-one miles in reserve and included their cost in the estimate at ten million dollars per mile.

According to the 1968 Interstate Cost Estimate, \$27,929 million was needed to complete the Interstate System. Indiana's share of the cost was \$570 million. Excluding the funds already available, Indiana needed \$337,247,000 in additional Federal funds to complete the System. The apportionment factor for fiscal years 1970 and 1971 was 1.995 percent for Indiana.

1970 Cost Estimate. According to the Federal Aid Highway Act of 1968, the 1970 Interstate Cost Estimate was to serve as the basis of apportionment for fiscal years 1972 through 1974. When the Federal Aid Highway Act of 1970 extended the completion date for the System from June 30, 1974 (under the 1968 Act) to June 30, 1976, the 1970 Act adopted the appor-

tionment factors of the 1970 estimate for only fiscal years 1972 and 1973, and requested another cost completion estimate in January of 1972 for the apportionment of funds in fiscal years 1974 and 1975 and still another cost completion estimate in January of 1974 for the apportionment of funds in fiscal year 1976.

The 1970 cost estimate was based on the unit prices of calendar year 1968 and on the cutoff date of November 1, 1969. The Federal Aid Highway Act of 1968 authorized an additional 1,500 miles for the Interstate System. On December 13, 1968, the Department of Transportation announced the designation of 1473 miles from the 1,500-mile extension. Subsequent additions and adjustments to the System exhausted the remaining authorized mileage for the System except for a five-mile reserve. The States submitted cost estimates for 42,495 miles of the System. Seventeen States did not have to prepare new cost estimates because they had no system adjustments subsequent to the year 1968. The five-mile reserve was included in the 1970 Interstate Cost Estimate at ten million dollars per mile.

The Federal Aid Highway Act of 1968 also authorized an additional 200 miles for the Interstate System to be used for modifications or revisions. However, adjustments under the 200-mile addition were not to be charged against the 42,500-mile legislative limit for the System. Furthermore, the costs of these adjustments were not to exceed the 1968 costs of mileage withdrawn from the System after 1968.

The 1970 Interstate Cost Estimate reported that \$30,270 million was needed to complete the Interstate System. Indiana's share of the cost was \$424 million. Excluding the funds already available, Indiana needed \$292,721,000 in additional Federal apportionments to complete the System. Indiana's share of the total Federal apportionment for completing the System was 1.417 percent for fiscal years 1972 and 1973.

1972 Cost Estimate. The 1972 Interstate Cost Estimate was submitted to Congress in January of 1972 as a basis for apportioning Federal Aid Interstate funds for fiscal year 1974 and 1975.

The cost estimate was based on the cutoff date of January 1, 1971 and on the unit prices for calendar year 1970. The States submitted cost estimates for 42,497 miles of the 42,500-mile System. The Federal Highway Administration included the remaining three miles (which were held in reserve for final measurement) in the 1972 cost estimate at ten million dollars per mile.

According to the 1972 Interstate Cost Estimate, the cost of completing the System was estimated at \$32,880 million. Indiana's share of the completion cost was \$414 million. Excluding the funds already appropriated, Indiana needed \$221,090,000 in additional Federal Interstate apportionments. The apportionment factor for fiscal years 1974 and 1975 was 1.214 percent for Indiana.

Additional Cost Estimates. The 1974 Interstate Cost Estimate will be submitted to Congress in January of 1974 as the basis for apportioning funds for fiscal year 1976. If the System completion date of June 30, 1976, (under the 1970 Federal Aid Highway Act) is extended farther in the future, the 1974 Interstate Cost Estimate will probably serve as the basis for apportioning funds for fiscal years 1976 and 1977; additional Interstate cost estimates will probably be requested for subsequent fiscal years.

In August of 1973, the Indiana State Highway Commission completed the 1974 Interstate Cost Estimate in Indiana based on the cutoff date of January 1, 1973, and on the unit prices of calendar year 1972. As of January 1, 1973, Indiana needed \$383 million to complete the System. Indiana estimated its needs roughly at \$262,114,000 in additional Federal Interstate apportionments in the fiscal years following 1973 to complete the System.

Evolution of Costs

Because each Interstate Cost Estimate was based on the construction prices, laws and regulations in existence and included no adjustment for future trends except traffic growth, the estimates of the cost to complete the System varied. Increases in construction prices and changes in laws and regulations accounted for much of the variation in estimates of the cost to complete the System and in estimates of the total cost of the System with time.

The series of Interstate Cost Estimates provide a basis for a series of estimates of the total cost of the Interstate System. Referring to Table 16 (p. 766), an estimate of the total cost of the System for the Nation in any year equals the total of the estimates of the cost to complete the System in each State, less the cost financed with other than Interstate and State matching funds and plus the funds obligated by the States, the cost of the mileage which has not been designated, the cost of State highway planning and research, Federal administration and research, and contingencies.

The series of estimates of the total cost of the Interstate System in Indiana (Table 17 , p. 767) is based on the Interstate Cost Estimates for Indiana and funds obligated from the 1952 Federal Aid Highway Act to the cutoff date of the cost estimate.

Analysis of Increase from 1949 to 1955. For Indiana and the Nation, the total cost of improving the Interstate System in June of 1954 was nearly two and a half times the estimate in December of 1948. The difference in the estimates was primarily the result of a change in design standards. The estimate reported in Highway Needs of the National Defense of 1949 was based on the cost to correct existing critical deficiencies of the System on existing alignments to tolerable standards. On the other hand, the estimate in A 10-Year National Highway Program of 1955 was based on full-controlled access standards and geometric standards for a design speed

TABLE I6. ESTIMATED TOTAL COST OF THE INTERSTATE SYSTEM FOR NATION³

(MILLIONS OF DOLLARS)

TABLE 17. ESTIMATED TOTAL COST OF THE INTERSTATE SYSTEM
IN INDIANA (THOUSANDS OF DOLLARS)

ITEM	CUT OFF DATE FOR INTERSTATE	COST OF COMPLETION	ESTIMATE
	TOTAL FEDERAL	TOTAL FEDERAL	TOTAL FEDERAL
ESTIMATED COST TO COMPLETE SYSTEM	12-31-48 TOTAL FEDERAL 1,667,000	7-1-54 TOTAL FEDERAL 1,667,000	1-1-60 TOTAL FEDERAL 1,667,000 ^a
LESS COST FINANCED WITH OTHER THAN INTERSTATE AND STATE MATCHING FUNDS	---	---	850,850 ^a
FUNDS NEEDED TO COMPLETE THE SYSTEM	389,437	194,719	867,000
FUNDS OBLIGATED FROM 7-1-56 TO CUT OFF DATE OF COST ESTIMATE	---	---	1,067,724 ^a
TOTAL COST OF THE SYSTEM SINCE 7-1-56	1,007,724	940,970	946,351 ^d
FUNDS OBLIGATED BEFORE 7-1-56	7,086	3,017	7,086
TOTAL COST OF SYSTEM IN INDIANA	389,437	194,719	867,000
INCREASE IN COST (TOTAL FUNDS)	477,363	207,040	- 61,403
			107,106
			168,026
			117,175 ^f
			41,291 ^e
			43,387

^a Figures used by Bureau of Public Roads.

^b Cost of improvement to the Indiana Toll Road and cost of West Leg extension of Interstate 465 (non-Interstate funds).

^c Also includes 1-32 funds of Federal Highway Act of 1937 and 78 funds of Federal Aid Highway Act of 1934.

^d Based on figures used in Indiana analysis of cost increase.

^e Based on figures used in Indiana analysis of cost increase assuming Federal participation roughly ninety percent.

^f If the \$36,102,000 in the 1970 estimate, excluded by PHWA, is included, the increase comes to \$133,279,000. Indiana used \$133,108,000 for analysis of cost increase.

^g If the \$33,473,00 in non-Interstate funds in the 1972 estimate is included, the increase comes to \$74,768,000. Indiana used \$74,049,000 for analysis of cost increase.

of seventy miles per hour and for the traffic volumes of 1975. To achieve the latter, most of the Interstate had to be relocated.

There were other important differences in the estimates although they were less significant. The 1949 estimate was based on the construction prices of calendar year 1948 as compared to the first half of calendar year 1954 for the 1955 estimate. The States only reported the cost of correcting existing deficiencies on the mileage designated in August of 1947; the costs of improving approximately 2,200 miles of urban feeder routes were excluded. The 1955 estimate, however, included four billion dollars for 2,300 miles of urban feeder routes which had not been designated.

Analysis of Increase from 1955 to 1958. The 1958 estimate of the total cost of the System at \$37,570 million (excluding \$1,940 million to be financed with other than Interstate and State matching funds) was nearly forty percent higher than the 1955 estimate at \$27,000 million. These figures were based on the same routes. If the cost of the 1,452 miles saved through detailed locations of the original 40,000 miles and the cost of the 1,000-mile extension were included in the 1958 estimate, the total cost of the System was fifty-two percent greater. In Indiana, there was a twenty-four percent increase in the cost of the System in the two years between the cutoff dates of the estimates.

The two estimates were based on the same design standards; however, the 1955 estimate was not based on uniform guidelines in the preparation of the estimate. Furthermore, the 1955 estimate was developed in a short span of time, and some States had limited experience in estimating the cost of controlled access highways, particularly in urban areas. The Bureau of Public Roads had added four billion dollars for the 2,300 miles of undesignated urban feeder routes in 1955; however, the States estimated the cost of these routes at nine billion dollars in the 1958 estimate.

Several other factors accounted for the difference in the two estimates of the total cost of the System. Because of improved traffic forecasting methods and higher population forecasts, the traffic forecasts for 1975 subsequent to the 1956 Act were fifteen percent higher than previous forecasts. This resulted in a five percent increase in the total cost of the System.

Because the 1956 Act extended the objectives of the Interstate System to include service to local needs, there was a sixty-three percent increase in the number of highway grade separations, interchanges, other structures, and frontage roads over the 1955 estimate. This increased local service accounted for a fifteen percent increase in the total cost of the System. Construction costs rose twelve percent between mid-1954 and the last half of 1956. Utility adjustments, signing, and lighting cost increases accounted for another three percent increase in the total cost of the system.

Cost Analysis from 1958 to 1961. Adding the cost of the 1000-mile extension and the 1,452-mile savings to the 1958 estimate of the States, there was no change in the total cost of the System between the cutoff dates of July 1, 1956 and January 1, 1960. Excluding the costs of State planning and research and Federal administration and research, the 1961 construction cost of the System was approximately one billion dollars less than the 1958 estimate. Indiana reported an \$82 million decrease in the total cost of the System.

The temporary stabilization of the total cost of the System was primarily due to the establishment of design guidelines by the Bureau of Public Roads to hold down costs. The Bureau of Public Roads established specific guidelines for interchange spacing. These interchange spacing guidelines resulted in the elimination of many proposed interchanges in Indiana.

Specific requirements were also established for the justification of interchanges, separations, frontage roads and other structures. In 1960, Indiana had to justify all interchanges, separations and frontage roads that had not already been approved for construction. The Indiana State Highway Department had to eliminate several separations because they could not be justified under the new guidelines.

The Bureau of Public Roads also established a maximum number of lanes based on the size of the urban area. If there was doubt that a certain element would be needed by 1975, the instructions for the preparation of the 1961 estimate required the exclusion of such elements from the estimate.

Analysis of Increase from 1961 to 1965. From the 1961 estimate to the 1965 estimate, the estimated total cost of the System increased \$5,800 million (14.1 percent) for the Nation and \$102 million (10.3 percent) for Indiana. The increase resulted from increases in cost due to System additions and adjustments; changes in unit prices between 1959 and 1963; increases in right-of-way values, particularly in urban areas; a change in the design year; and changes in construction quantities reflecting more developed design plans (additional lanes, additional structures and heavier pavement) to accommodate the increase in traffic forecast for the System. A monetary breakdown of the cost increases by major category appears in Table 18 (p. 771) for the Nation and Table 19 (p. 772) for Indiana.

The Federal Aid Highway Act of 1963 changed the design year of the System from 1975 to twenty years from the date of construction approval of each project. This change in law caused a \$342 million increase in the total cost of the System for the Nation. Indiana reported that the change in design year resulted in an increase of \$2,469,000 for the total cost of its System. The Bureau of Public Roads, however, pared this figure to \$1,810,000 for Indiana in the



TABLE I8. COST ANALYSIS OF INCREASE OF INTERSTATE COST FOR NATIONAL⁴

(MILLIONS OF DOLLARS)

TABLE I9. 1965 INTERSTATE COST ESTIMATE: COST ANALYSIS OF INCREASE IN COST OVER 1961 ESTIMATE.⁵

1965 Interstate System Cost Estimate to Congress.⁶ The change in design year accounted for 5.9 percent of the cost increase nationwide and 2.4 percent of the cost increase in Indiana.

For the Nation and Indiana, the largest increases between 1961 and 1965 in cost of the System were attributable to excavation, embankment, drainage, utility adjustments, roadside improvements and signs (all recorded in column 13 of the Indiana analysis). Changes in these items were due to more refined quantities as the design plans neared completion.

In Indiana, increases in the cost of right-of-way in the Indianapolis urban area accounted for the second highest increase in cost. Increases in right-of-way cost amounted to 18.6 percent of the total cost increase in Indiana and to 13.2 percent of the cost increase nationwide.

The cost of System adjustments and additions resulted in the second highest increase in total cost for the Nation and in the third highest increase in total cost in Indiana. The addition of Interstate 275 in Indiana was estimated to cost \$16.9 million.

On a national basis, a change in construction prices from 1959 to 1963 accounted for 19.1 percent of the total cost increase. Although construction cost was the third highest factor in the total cost of the System in the Nation, it was a minor factor in the increase in cost in Indiana (0.5 percent).

Analysis of Increase from 1965 to 1968. On the basis of the 1968 Interstate Cost Estimate, the total cost of the System increased 20.7 percent (\$9,600 million) for the Nation and 15.4 percent (\$169 million) for Indiana. An analysis of the cost increases appears in Table 18 (p. 771) for the Nation and in Table 20 (p. 774) for Indiana.

A change in unit prices from 1963 to 1966 was the most significant factor in the increase. This factor accounted

TABLE 20. 1968 INTERSTATE COST ESTIMATE: COST ANALYSIS OF
INCREASE IN COST OVER 1965 ESTIMATE⁷
(THOUSANDS OF DOLLARS)

Breakdown of Construction Cost Increases Due to Changes in Design, Added Features, Construction Quantities, and Construction Prices - Column 9										Status Dec. 1, 1967	
										Not Authorized	
										Authorized	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(20)
I-64	16,522	0	0	0	100	1,705	0	15,347	512	0	0
I-65	55,986	0	0	0	19,132	-3,909	0	40,763	0	0	0
I-69	6,298	0	0	0	0	-109	0	6,407	622	0	0
I-70	24,423	0	0	0	6,456	456	0	17,511	0	288	0
I-74	11,998	0	0	0	0	38	0	11,990	0	0	0
I-BO	3,571	0	0	0	0	-433	0	4,004	0	0	0
I-94	21,154	0	0	0	0	197	650	20,107	1,646	0	0
I-265	3,532	0	0	0	0	57	1,126	2,349	0	0	0
I-275	2,325	0	0	0	0	63	0	2,260	0	0	0
I-465	23,017	0	0	0	0	116	0	28,133	0	0	0
Total	168,826	0	0	0	25,448	-2,681	1,976	143,845	2,780	268	0
										6,864	21,449
										16,877	0
										93,381	2,204
										30,471	138,355
										20,003	33

for 55.0 percent of the increase in the total cost of the System in Indiana and for 19.3 percent of the increase nationally. From 1960 to 1966, the Bureau of Public Roads price trend revealed a steady increase exceeding 2.5 percent per year.

A change in design standards with respect to safety was the next most significant factor in increasing the total cost of the System in Indiana and the Nation. Safety improvements on completed projects amounted to \$685 million for the Nation and \$18.9 million for Indiana. The cost for safety features on work to be completed amounted to \$845 million for the Nation and \$21.4 million for Indiana. Consequently, safety improvements accounted for 15.8 percent of the cost increase nationally and for 23.4 percent of the cost increase in Indiana.

A retroactive change in the guidelines on rest park spacing resulted in an increase in the number of rest parks on the System. Because rest parks are justified on the basis on safety, a portion of the increase in cost found for erosion control, rest areas and landscaping was also attributable to safety.

An increase in right-of-way cost in the Indianapolis urban area resulted in the third highest increase in the total cost of the System in Indiana, accounting for 15.2 percent of the total cost increase. An increase in right-of-way cost ranked sixth in significance for the Nation. The Bureau of Public Roads reported that the cost of right-of-way increased five to ten percent per year on uncompleted segments of the System.

System additions and adjustments resulted in the third highest increase in total cost of the System for the Nation.

Increase in volume forecasts resulted in the need for heavier pavement structures. This factor accounted for the fourth highest increase in total cost for the System nationally.

A change in Federal policy in 1968 allowed Interstate fund participation in the cost of an additional stage of pavement on projects authorized prior to October 24, 1963, which were determined to be structurally inadequate for the appropriate design year traffic. This factor accounted for a \$200 million increase in the total System cost for the Nation.

The Federal Aid Highway Act of 1966 required a minimum four-lane divided highway design for the System without regard for the travel forecasts of the design year. Congress passed this provision to eliminate the dangerous transition from a four-lane facility to a two-lane facility. This factor resulted in a \$335 million increase in the cost of System nationally. Indiana had no two-lane Interstate facilities since the change in the design year by the Federal Aid Highway Act of 1963.

The remaining cost changes were due to an increase in preliminary engineering costs; additional interchanges and grade separations; additional lanes; and an increase in the allowance for State and Federal planning, research, administration, and contingencies.

Analysis of Increase from 1968 to 1970. On the basis of the 1970 Interstate Cost Estimate, the total cost of the System increased 23.7 percent (\$13,370 million) for the Nation and 12.1 percent (\$153 million) for Indiana. A breakdown of the factors causing the increase appears in Table 18 (p. 771) for the Nation and in Table 21 (p. 777) for Indiana.

The 1500-mile authorization by the Federal Aid Highway Act of 1968 accounted for the largest portion (25.2 percent) of the increase in the total cost of the System for the Nation. The addition of Interstate 164 resulted in an increase of \$20,045,000 in total cost of the System in Indiana.

TABLE 21. 1970 INTERSTATE COST ESTIMATE: COST ANALYSIS OF INCREASE IN COST OVER 1968 ESTIMATE⁸
(THOUSANDS OF DOLLARS)

The largest increase in the total cost of the System in Indiana was attributable to the cost of correcting safety deficiencies on projects previously considered completed. The cost of major and minor safety improvement projects was estimated to be \$63,515,000 in Indiana. The Federal Highway Administration later reduced this figure to \$27,410,000 by requiring only mainline bridges in widening to shoulder width. With this adjustment, changes in unit price accounted for the largest increase in cost in Indiana followed by safety improvements and the addition of Interstate 164. Safety projects on completed projects throughout the Nation accounted for a \$335 million increase.

Upgraded roadway designs resulted in the second largest increase in cost for the Nation. An upgraded roadway design included major design changes and costs resulting from an increased emphasis on environmental considerations, preservation of parks and historical sites, depressed roadways, and multiple use of right-of-way. Upgraded roadway designs accounted for 18.2 percent of the cost increase.

Unit price changes amounted to 17.9 percent of the national increase, the third largest increase.

The remainder of the 1970 increase was attributable in varying degrees to the following: additions and adjustments to 41,000 miles of the System; relocation assistance; increase due to right-of-way and preliminary engineering costs; additional interchanges and grade separations; changes in structural design, excluding roadway design; increased costs for landscaping, rest parks and erosion control; additional lanes; and increases in administrative, planning and research costs, and contingencies.

Analysis of the Increase from 1970 to 1972. From the 1970 estimate to the 1972 estimate, the estimated total cost of the System increased \$6,430 million (9.2 percent) for the Nation and \$74.6 million (5.4 percent) for Indiana. Excluding \$33.5 million of the cost increase in

Indiana, which was to be financed with other than Interstate and State matching funds, the estimated total cost of the System in Indiana only increased \$41.1 million (3.0 percent). A breakdown of the factors contributing to the cost increase appears in Table 18 (p. 771) for the Nation and Table 22 (p. 780) for Indiana.

Unit price changes from 1968 to 1970 accounted for 59.5 percent of the cost increase for the System throughout the Nation and 24.6 percent of the increase in Indiana. This factor resulted in the most significant increase in cost for the Nation and the second most significant increase in Indiana.

The largest increase in cost in Indiana was attributed to upgraded structure design followed by unit price changes and upgraded roadway design. Indiana included \$33,214,000 for upgrading of the Indiana Toll Road in the 1972 Interstate Cost Estimate. This cost was reflected in the increase in total cost of the System attributable to upgraded structure and roadway designs. Improvement of the Indiana Toll Road, however, involves non-Interstate funds, and exclusion of this improvement cost from the cost increases makes unit price changes responsible for the largest cost increase followed by the cost of upgraded structure design.

Due to higher design standards in the area of safety, upgraded roadway designs accounted nationally for the second largest increase in the total cost of the System.

The third largest national increase in cost (\$515 million or 8.0 percent) was attributed to environmental considerations including socioeconomic and environmental impact, joint development, and multi-use features. Although Indiana did not report a cost increase attributable to environmental considerations, a special report on environmental costs in Indiana reported that \$44,096,800 or 10.63 percent of the 1972 estimate of the cost of completing the System was attributable to environmental considerations.

TABLE 22. 1972 INTERSTATE COST ESTIMATE : COST ANALYSIS OF
INCREASE IN COST OVER 1970 ESTIMATE⁹
(THOUSANDS OF DOLLARS)

Environmental considerations in urban areas accounted for \$7,778,850. The following right-of-way expenses were considered environmental costs: additional takings for buffer zones or for the acquisition of whole blocks, multiple use, replacement of park land, more costly right-of-way to avoid parks and residential areas, and rodent control. Environmental considerations in construction included chemical treatment of the roadside, landscaping, turf establishment, drainage, dust control, aesthetics, and erosion control.

Special features attributable to environmental considerations encompassed rest areas; pedestrian structures; drainage; noise barriers; multiple use facilities; costly relocation; costs to reduce adverse environmental impacts; costs to relocate historical structures; and additional costs for viaducts, depressed roadbeds, greater structure lengths, and viaducts rather than embankments to improve environmental compatibility.

Relocation assistance resulted in a \$90 million increase in the total cost of the System throughout the States. Relocation assistance accounted for 1.4 percent of the increase between the 1970 and 1972 estimates and 1.3 percent of the increase between the 1968 and 1970 estimates.

The remainder of the cost increase was attributed to mass transit and fringe parking proposals; increases in right-of-way and preliminary engineering costs; additional interchanges and separations; safety improvements; additional lanes; and increases in the allowance for administration, planning, research, and contingencies.

Future Increases in the Total Cost of the System. From July 1, 1954 to January 1, 1971, the total cost of the Interstate increased from \$27 billion to \$76.3 billion for the Nation and from \$867,000,000 to \$1,401,018,000 for Indiana.

This is a 182.6 percent increase in the total cost of



the System for the Nation and a 61.6 percent increase cost of the System for Indiana. Throughout the Interstate Program, the percent increase in total cost in Indiana was always less than the national average for each successive estimate.

An estimate of the total Federal cost of the System based on The 1972 National Highway Needs Report was found to be \$67 billion. This figure was below the Federal share of the total cost as reported in the 1972 Interstate Cost Estimate. A revision in the needs report increased the total Federal cost of the System to \$70 billion. This latter figure would place the total cost of the System at \$77.8 billion. However, all estimates of the total cost of the System disregarded future trends.

Because more than eighty percent of the System was completed in the Nation in 1972, future increases in the total cost of the System should become successively smaller. As Indiana has completed eighty-seven percent of the System and the percent increase in cost in Indiana has always fallen below the national average, the percent increase in the total cost of the Indiana System should remain below the national average.

Changes in construction prices accounted for a majority of the cost increase for the Nation according to the 1972 Interstate Cost Estimate, and they will probably account for a majority of any future increases. Changes in unit prices will also probably account for a significant portion of any future increases in Indiana. Construction cost will probably continue to escalate, and the ultimate cost of the System will continue to increase as the completion of the System is delayed.

Actual Costs

As of June 30, 1973, Indiana had expended \$1,110,921,715 in State and Federal funds on the completion of the Inter-

state System. This figure included \$2,348,566 under the Federal Aid Highway Act of 1952, \$14,025,983 under the 1954 Act, and \$1,094,547,166 under the 1956 Act. Expenditures on the Interstate System in Marion County amounted to approximately \$287 million in January of 1972 or roughly twenty-five percent of the total Interstate expenditures.

Expenditures on the Interstate System and all systems in Indiana appear in Table 23 (p. 784). In fiscal year 1972, expenditures on the Interstate System in Indiana fell below expenditures on all other systems.

A general summary of the costs by Interstate route appears in Table 24 (p. 785). The costs are actual expenditures on the routes in most cases. However, some cost estimates are included for uncompleted projects on Interstate 64, and on Interstates 65 and 70 in Indianapolis. The costs for each route are also broken down by major categories. This Table also includes information by route on the date the first road contract was awarded, on the date the last road contract was completed, and on the date the last project was opened to traffic.

Based on the 1972 estimate of the total cost of the System, Indiana had completed 78.1 percent of the System in terms of Interstate and State matching funds on June 30, 1973. On the basis of the 1974 estimate of the total cost of the System, Indiana had completed 75.6 percent of the System costwise on June 30, 1973.

According to the 1974 cost estimate, Indiana will spend \$358 million more in Interstate and State matching funds to complete the System. This figure includes roughly \$28.6 million for Interstate 164, \$19.7 million for Interstate 265, \$26.0 million for Interstate 275, \$178 million for Interstates 65 and 70 in Indianapolis, and the remainder for the completion of Interstate 64 and the safety improvements on completed routes. Table 32 (p. 805) gives a

TABLE 23. EXPENDITURES IN INDIANA¹⁰ (FEDERAL AND STATE FUNDS)
(DOLLARS)

Object of Expense:	Fiscal Year	1966		1967		1968		1969	
		Interstate	Total	Interstate	Total	Interstate	Total	Interstate	Total
Right Of Way								23,246,782	31,648,801
Relocation								798,633	976,373
Formal Contracts								80,022,026	124,623,010
Consultant Engineers								2,002,477	6,054,785
Total	72,209,000	117,944,000	84,291,000	129,021,000	111,510,000	162,838,000	106,069,918	163,302,969	

Object of Expense:	Fiscal Year	1970		1971		1972	
		Interstate	Total	Interstate	Total	Interstate	Total
Right of Way	10,380,662	18,545,743	4,035,666	12,848,562	2,380,171	10,046,560	
Relocation	1,559,825	2,229,821	314,213	602,393	274,621	657,063	
Formal Contracts	65,868,978	106,730,709	77,931,012	126,625,560	79,189,680	153,459,095	
Consultant Engineers	1,155,753	3,126,794	896,004	3,082,542	386,702	2,915,519	
Total	78,965,218	130,633,067	83,176,895	143,195,057	82,231,174	167,078,237	

TABLE 24. COSTS OF INDIANA INTERSTATE ROUTES

Route	Description	Date Completed	Length (Miles)	Date First Road Contract Awarded	Date Last Road Contract Awarded	Date Last Project Opened to Traffic	Road and Bridge Construction Cost (Dollars)	Preliminary Engineering Cost (Dollars)	Right-of-Way Costs (Dollars)	Railroad Adjustments (Dollars)	Utility Adjustments (Dollars)	Signing (Dollars)	Total Cost (Dollars)	Average Cost Per Mile (Dollars Per Mile)
I-64	All	3/31/73	124.0	12/15/60	5/15/58	4/24/70	\$165,350,800	\$5,894,600	\$27,976,000	\$272,000	\$2,017,300		\$189,246,514	
I-65N	College Ave. in Indiana - polis to Indiana Toll Road	12/71	148.1			1/21/71							\$201,500,700	a
I-65S	Ohio River to College Ave.	6/30/72	114.0	8/18/58	10/28/70	8/18/72	\$146,465,200	\$8,097,200	\$44,096,395	\$271,600	\$6,503,350			
I-69	Interstate 465 to Indiana - Michigan State Line	6/30/71	157.8	7/18/60	9/3/69	12/21/71	11/16/71	\$104,966,270	\$4,817,124	\$12,047,524	\$307,126	\$1,360,524		
	Ohio-Indiana State Line to Illinois-Indiana State Line to I-465 W. Log	6/71	140.0	7/3/59	6/19/67	7/22/70	10/21/69	\$105,009,315	\$4,118,040	\$10,043,009	\$1,092,632	\$778,750		
I-70	All	6/71	154.1	7/3/59				\$125,440,878	\$6,457,905	\$32,576,826	\$96,894,646	\$2,482,415	\$164,931	\$167,113,853
I-74	All	6/30/71	151.3	7/29/58	7/25/65	11/9/67	8/31/67	\$95,099,225	\$3,534,996	\$9,324,475	\$34,561	\$764,084		
I-80-94	All		16.0	6/15/48	10/10/67	8/12/69	8/15/69						\$108,737,361	\$717,265
I-94	Indiana Toll Road to the Indiana-Michigan Border	11/72	29.7	10/10/67	4/13/71	/ 173	11/2/72	\$50,689,300	\$1,844,200	\$7,308,200	\$116,050	\$1,365,000		
I-164	All		14.3										\$61,322,750	\$2,064,739 d
I-265	All		6.7	6/16/72										
I-275	Ohio River to U.S. 50		3.3	10/18/72										
I-465	All	10/70	56.8	8/7/59	10/15/68	10/22/70	10/5/70	\$87,379,300	\$3,186,400	\$20,757,800	\$2,928,000	\$669,800	\$115,221,500	\$2,028,248
I-465	All	3/30/73	57.8	8/7/59	10/15/68	10/22/70	10/5/70	\$91,694,928	\$4,601,305	\$19,956,373	\$1,177,236	\$2,537,255	\$17,111	\$119,021,241

aConstruction includes \$1,162,297 for roadside development not yet constructed and \$129,536 from Beautification Fund.

bDates for section from Ohio River to South Leg of Interstate 465.

cDates outside Interstate 465.

dConstruction cost includes \$202,00 for one weight station and \$41,00 for one rest park not yet constructed.

more accurate picture of the funds which Indiana needs from all sources to complete the System.

Indiana spent roughly \$70 million on the Interstate System in fiscal year 1973. According to the biennial highway program from July 1, 1973, to June 30, 1975, expenditures on the Interstate System will amount to \$115 million for fiscal years 1974 and 1975 or roughly one-third of the \$353 million two-year highway program.

Funding

This subchapter discusses the basic relationship between revenues, expenditures, and the estimated costs to complete the System. This subchapter also describes the utilization of funds in Indiana.

Authorizations and Apportionments

The Federal Aid Highway Act of 1956 authorized the expenditure of \$24,825 million on the System for fiscal years 1957 through 1969. Including the \$175 million authorized for fiscal year 1957 by the Federal Aid Highway Act of 1954, Congress provided \$25,000 million for the Interstate System over a thirteen-year period. This amount equaled the Federal share of the total cost of the System as reported in A 10-Year National Highway Program. Because the States had not obligated \$140 million of the funds authorized for the System in fiscal years 1954 through 1956, \$25,140 million in authorizations was available for expenditure on the System after June 30, 1956. [Refer to Table 25 , p. 787].

In 1956, Congress had anticipated that revenues from highway user taxes would follow a straight line growth pattern. On the other hand, expenditures on the Interstate Program were expected to gradually increase in the early year, to reach a high in the middle years, and to taper off

TABLE 25. INTERSTATE AUTHORIZATIONS

(MILLIONS OF DOLLARS)

in the latter years. Consequently, expenditures would exceed revenues in the early and middle years of the Program, but would fall below revenues in the latter years of the Program. In the long run expenditures and revenues were forecasted to balance.

To overcome the expenditure deficits in the early and middle years of the Program, temporary loans were permitted from the Treasury. However, the addition of the Byrd Amendment which required the Program to operate on a pay-as-you-go basis within each year nullified the loan provision of the 1956 Act.

Federal Aid Highway Act of 1958. In 1957, several members of Congress recognized that an annual imbalance of receipts and expenditures would create a financial problem. Interstate apportionments for fiscal years 1957 through 1959 could be made as planned. However, the authorizations for fiscal years 1960 through 1967 would have to be reduced from \$2.2 billion to \$1.5 billion annually to maintain revenues and expenditures in balance on an annual basis. This adjustment would defer the expenditure of \$5.6 billion of the authorizations until the latter part of the Program.

The Interstate financing problem was further compounded by an increase in the total cost of the System. On the basis of the adjusted 1958 estimate of the total cost of the System, additional Federal authorizations of \$11,860 million were needed to complete the System. [Refer to Table 26 , p. 789]. Since the 1956 Act apportioned funds for only fiscal years 1957 through 1959, additional apportionments amounting to \$31,985 million were needed for the fiscal years following 1959 to complete the System.

Federal Aid Highway Act of 1959. In 1958, the United States suffered an economic recession. To hasten economic recovery and to accelerate progress on the System, Congress increased the annual authorizations for the Interstate from \$2.0 billion to \$2.2 billion for fiscal year 1959 and

TABLE 26. STATUS OF FINANCING FEDERAL SHARE OF COST TO COMPLETE
THE INTERSTATE SYSTEM¹

(MILLIONS OF DOLLARS)

			Year of Interstate Cost Estimate							
			1958	ADJUSTED 1958	1961	1965	1968	1970	1972	1974
Federal Share of Estimated Total Cost of the System (Total Needed Federal Aid Interstate Authorizations)			33,952 ^a	37,000	37,000	42,000	50,640	62,500	68,260	
Total Authorizations Under Existing Legislation			25,000 ^b	25,140	25,440	37,000	42,300	50,640	60,503	
Additional Federal Authorizations Needed to Complete			8,952	11,860	11,560	5,000	8,340	11,860	7,757	
Federal Share of Estimated Total Cost of the System (Total Needed Federal Aid Interstate Apportionments)			33,952	37,000	37,000	42,000	50,640	62,500	68,260	
Total Apportionments through Fiscal Year following Year of Interstate Cost Estimate			4,875 ^c	5,015	11,715	22,215	32,415	40,415	48,503	
Required for Fiscal Years beginning Second Year After Year of Interstate Cost Estimate			29,077	31,985	25,285	19,785	18,225	22,085	19,757	

^a Based on cost estimate for 38,548 miles.

^b Ignored balance of authorizations for fiscal years prior to 1957. (\$140 million)

^c Ignored balance of apportionments under 1952 and 1954 Federal Aid Highway Acts.

from \$2.2 billion to \$2.5 billion for fiscal years 1960 and 1961 in the Federal Aid Highway Act of 1958. This Act also suspended the pay-as-you-go provision of the 1956 Act for fiscal years 1959 and 1960.

In recognition of the increased cost of the System and the economic recession, Congress increased total Interstate authorizations by \$800 million. Unfortunately, the 1958 Act contained no provision to increase revenue. The end result of the 1958 Act was to advance the time when expenditures would exceed revenues. Based on revenue forecasts, no Interstate apportionment could be made for fiscal year 1961, and only \$500 million could be apportioned for fiscal year 1962. The expenditure deficit could be overcome by a 1.5 cent increase in fuel taxes according to Congressional reports.

In 1959, Congress increased fuel taxes from three cents to four cents per gallon between October 1, 1959 and July 1, 1961. After June 30, 1961, the increase in fuel tax was to be replaced until June 30, 1964 by a transfer to the Trust Fund of the remaining half of the existing ten percent excise tax on new vehicles and the remaining five-eighths of the existing eight percent excise tax on motor vehicle parts and accessories.

In the Federal Aid Highway Act of 1959, Congress also reduced the authorization for fiscal year 1961 from \$2.5 billion to \$2.0 billion to prevent a deficit in the Trust Fund. However, when the apportionment for fiscal year 1961 was announced on October 8, 1959, the amount was reduced to \$1.8 billion because of the pay-as-you-go provision. This proved to be the only time in the Interstate Program that apportionments did not equal authorizations by Congress because of a lack of revenue in the Highway Trust Fund.

Since 1959, the Bureau of Public Roads has established a quarterly rate at which each State can obligate funds except as outlined on page 794. This measure was implemented to assure a balance of expenditures and receipts in the Trust Fund.

Federal Aid Highway Act of 1961. The Act of 1959 averted the future imbalance of revenues and expenditures; however, authorizations remained far below that needed to complete the System. Through the imposition of strict guidelines on Interstate fund participation, the Bureau of Public Roads held the total cost of the System constant between the 1958 and 1961 Interstate Cost Estimates. According to the 1961 Interstate Cost Estimate, additional Federal authorizations of \$11,560 million were needed to complete the System. For the fiscal years following 1962, \$25,285 million would have to be apportioned to complete the System.

The Federal Aid Highway Act of 1961 provided \$11,560 million in additional authorizations, matching the needs as reported in the 1961 Interstate Cost Estimate. Although the completion date for the System was not extended from June 30, 1969, to June 30, 1971 until the Federal Aid Highway of 1964, the 1961 Act provided authorizations for fiscal years 1970 and 1971.

To match the increase in the level of expenditures, the 1961 Act also increased revenues for the Trust Fund. The four cent fuel tax was extended until October 1, 1972. For the same period, the tax was increased on tires from eight to ten cents per pound, on inner tubes from nine to ten cents per pound, and on retread rubber from three to five cents per pound. All of the ten percent excise tax on new trucks and buses was earmarked for the Trust Fund. The tax on heavy vehicles was increased from \$1.50 to \$3.00 for every 1,000 pounds over 26,000 pounds. As a compensation to the user for these extra taxes, the excise taxes on automobiles, parts, and accessories was to terminate July 1, 1964 instead of June 30, 1971.

This Act provided the authorizations and revenues needed to complete the System according to the 1961 Interstate Cost Estimate.

Federal Aid Highway Act of 1965. In January of 1965 a new estimate of the total cost of the System revealed an increase in the Federal portion of the cost from \$37,000 million to \$42,000 million. Under existing legislation, the total Interstate authorizations amounted to only \$37,000 million. Due to the increase in the cost of the System, apportionments amounting to \$19,785 million would be needed for the fiscal years, following 1966.

In passing the Act of 1965, Congress only increased the authorization for fiscal year 1967 from \$2.9 billion to \$3.0 billion. About \$4.9 billion in authorizations, however, was still needed to complete the System. The Act also apportioned \$3.0 billion for fiscal year 1967. However, apportionments amounting to \$16,785 million were still needed for the remaining four fiscal years of the Program.

Federal Aid Highway Act of 1966. The 1966 Act again brought expenditures in line with the total cost of the System. In fact, \$300 million in authorizations was provided in excess of the \$42,000 million needed to complete the System. This Act extended the completion date from the System from June 30, 1971 to June 30, 1972, and apportioned \$7,200 million in Interstate funds for fiscal years 1968 and 1969.

Federal Aid Highway Act of 1968. According to the 1968 Interstate Cost Estimate, additional authorizations amounting to \$8,340 million were needed to offset the increased cost of the System. The 1968 Act authorized an increase in funds that matched the estimated total cost of the System.

In providing the additional funding, the completion date for the System was changed from June 30, 1972 to June 30, 1974.

Federal Aid Highway Act of 1970. In January of 1972, Congress was informed that the total cost of the System had increased by \$11,860 million. The 1970 Act provided \$9,863 million in additional authorizations bringing the total Interstate authorizations to \$60,503 million. However, \$1,997 million in authorizations was still needed to complete the System. The 1970 Act also extended the completion date for the System from June 30, 1974 to June 30, 1976 and the life of the Trust Fund from October 1, 1972 to October 1, 1977.

Future Legislation. The total Federal cost of the Interstate System increased to \$68,260 million according to the 1972 Interstate Cost Estimate. This meant that an additional \$7,757 million in authorizations was needed to complete the System. Apportionments amounting to \$19,757 million were also needed for the fiscal years following 1973.

As proposed by Senate Bill 502, the Federal Aid Highway Act of 1973 would provide \$8,000 million in additional authorizations for the System. Since the total authorizations under this proposed legislation would amount to \$68,503 million, the legislation would provide \$243 million over the 1972 estimate of the total Federal Cost of the System. Senate Bill 502 would reduce the authorizations for fiscal years 1974 through 1976 from \$4.0 billion to \$3.5 billion and would provide an additional \$3.5 billion for fiscal year 1977, an additional \$3.5 billion for fiscal year 1978, and an additional \$2.5 billion for fiscal year 1979. In effect, the proposed Act would extend the completion date of the System from June 30, 1976, to June 30, 1979. Adequate revenue to match the proposed level of expenditure does not appear to be a problem if the life of the Trust Fund is also extended.

As a note of interest, the Interim Federal Aid Highway Act of 1973 (which passed on June 28, 1973) expanded total Interstate authorizations to \$66,853 million. These authorizations

fell \$1,407 million short of the funds needed to complete the System according to the 1972 Interstate Cost Estimate.

Utilization of Funds

Table 27 (p. 795) documents the basic relationship between apportionments by Congress, obligations by the States, expenditures by the Nation, and revenues in the Federal Highway Trust Fund. The cumulative apportionments for the Interstate System by Congress appear in Table 29, p. 799. Since the estimated total cost of the System in 1972 was \$68,260 million, apportionments amounting to \$19,757 million are needed to complete the System for the fiscal years following 1973. The Interim Federal Aid Highway Act of 1973 provided only \$1,000 million in additional apportionments for fiscal year 1974. Consequently, \$18,757 million are still needed for the fiscal years after 1974.

A graphical illustration of Federal aid financing appears in Figure 125, p. 797. Since 1959, the Bureau of Public Roads has limited the amount of apportionments that a State may obligate. This policy was exercised to keep expenditures below receipts in the Trust Fund.

Since October 31, 1966, the U.S. Bureau of Budget (U.S. Office of Management and Budget) has withheld a segment of the Federal highway apportionments in an attempt to regulate the economy through Federal expenditures. On that date, all unobligated highway program funds were frozen. Overall highway program funds amounting to \$107 million for Indiana were frozen. Roughly twenty percent of the appropriations have been withheld from obligations each fiscal year. However, the withheld funds have always been released for obligation before they lapsed except in 1970.

The fiscal year 1970 funds that lapsed were reappropriated for fiscal year 1973. [Funds are apportioned two years before the fiscal year for which they are authorized.

TABLE 27. FEDERAL AID HIGHWAY APPORTIONMENTS
FOR NATION¹²

(MILLIONS OF DOLLARS)

Fiscal Year	Date Apporioned	Rural ABC	Primary & Urban Secondary	Topics	Other	Interstate	Total Obligations	Disbursement	Total Disburse-	Revenue Present	Balance in Trust Fund	Liability for Unpaid Obligations	Balance less Unpaid Obligations
Actual ^a	6/30/51	1,533				32	215	1,920	1,160	-----	-----	-----	-----
1957	7/1/57	125				4	1,010	1,127	2,227	2,08	2,366	1,382	516
1958	6/1/58	395				9	1,750	2,559	2,245	575	1,311	2,044	1,027
1959	8/1/59	275				503	2,200	3,578	3,509	1,501	2,613	2,387	555
1960	7/1/60	20				6	2,500	3,406	2,610	1,861	2,440	2,535	119
1961	1/2/61	374				4	1,860	2,678	3,192	3,219	3,212	2,294	229
1962	2/1/62	374				9	2,200	3,083	3,084	1,914	2,794	2,956	421
1963	4/17/63	965				4	2,400	3,329	3,927	2,109	3,017	3,233	747
1964	9/21/62	345				24	2,600	3,574	4,165	2,635	3,445	3,534	141
1965	7/2/63	325				82	2,700	3,252	4,022	2,015	2,026	3,670	195
1966	3/18/64	1,000				23	2,800	3,823	4,648	2,378	3,265	3,924	244
1967	8/30/65	1,000				30	3,000	4,930	3,782	2,276	3,774	4,455	725
1968	10/7/66	1,000				30	3,400	4,630	4,232	3,207	4,171	4,228	482
1969	9/23/67	1,000				30	3,800	4,830	4,638	3,149	4,151	4,690	1,561
1970 ^b	10/31/68	1,100	125			200	130	4,000	5,255	4,289	4,378	5,459	2,512
1971 ^c	12/15/69	1,100	125			200	130	4,000	5,555	4,662	3,496	4,685	5,725
1972 ^b	12/31/70	1,100	125			100	149	4,004	5,618	5,096	3,468	4,620	5,529
1973 ^f	12/31/70	1,100	125			100	100	149	5,118	5,118	4,934	5,751	4,490
Estimate ^d						-----	4,044	5,118	4,600	3,320	4,934	5,751	4,492
1974 ^e	1,100	125	700	100	149	4,000	6,174	4,600	3,064	4,711	5,641	6,732	7,568
1975 ^g	1,100	125	700	100	140	4,000	6,165	6,107	3,143	5,147	6,429	4,014	5,568
1976 ^h	1,100	125	700	100	140	4,000	6,165	5,965	3,746	5,670	5,613	3,457	514
1977 ⁱ	1,100	125	700	100	140	2,165	5,003	5,767	5,700	6,880	10,137	8,823	1,34
1978 ^j	1,100	125	700	100	140	2,165	3,038	5,356	11,164	2,152	1,125	1,125	-----
Total	22,881	1,125	3,700	1,100	2,057	60,203	91,366	60,503	21,266	92,491	-----	-----	-----

^aUnpaid balance of prior authorizations.^bIncludes transfer to Right of Way Revolving Fund.^cConsiders complete disbursement of all funds authorized for 1973 and prior fiscal years.

TABLE 28. INTERSTATE FUNDS APPORTIONED TO THE NATION
(MILLIONS OF DOLLARS)

Fiscal Year	Federal Act	Date Apportioned	Matching Basis (Fed.-State)	Amount Apportioned	Cumulative Apportionments
1954	1952	10-30-52	50-50	25	25
1955	1952	12-23-52	50-50	25	50
1956	1954	6-21-54	60-40	175	225
1957	1954	8-09-55	60-40	175	400
Unpaid Balance of Prior Authorizations					
		as of 6-30-56		315	315
1957	1956	6-29-56	90-10	1,000	1,315
1958	1956	8-01-56	90-10	1,700	3,015
1959	1956	8-01-57	90-10	2,000	5,015
1959	1958	4-16-58	90-10	200	5,215
1960	1958	7-21-58	90-10	2,500	7,715
1961	1961	10-08-59	90-10	1,800	9,515
1962	1961	7-22-60 12-30-60	90-10	2,200	11,715
1963	1961	8-17-61	90-10	2,400	14,115
1964	1961	11-28-62	90-10	2,600	16,715
1965	1961	7-08-63	90-10	2,700	19,415
1966	1961	8-18-64	90-10	2,800	22,215
1967	1965	8-30-65	90-10	3,000	25,215
1968	1966	10-07-66	90-10	3,400	28,615
1969	1966	11-29-67	90-10	3,800	32,415
1970	1968	10-31-68	90-10	4,000	36,415
1971	1968	12-15-69	90-10	4,000	40,415
1972	1970	12-31-70	90-10	4,044	44,459
1973	1970	12-31-70 11-01-71	90-10	4,044	48,503
1974	1973	7-11-73	90-10	1,000	49,503

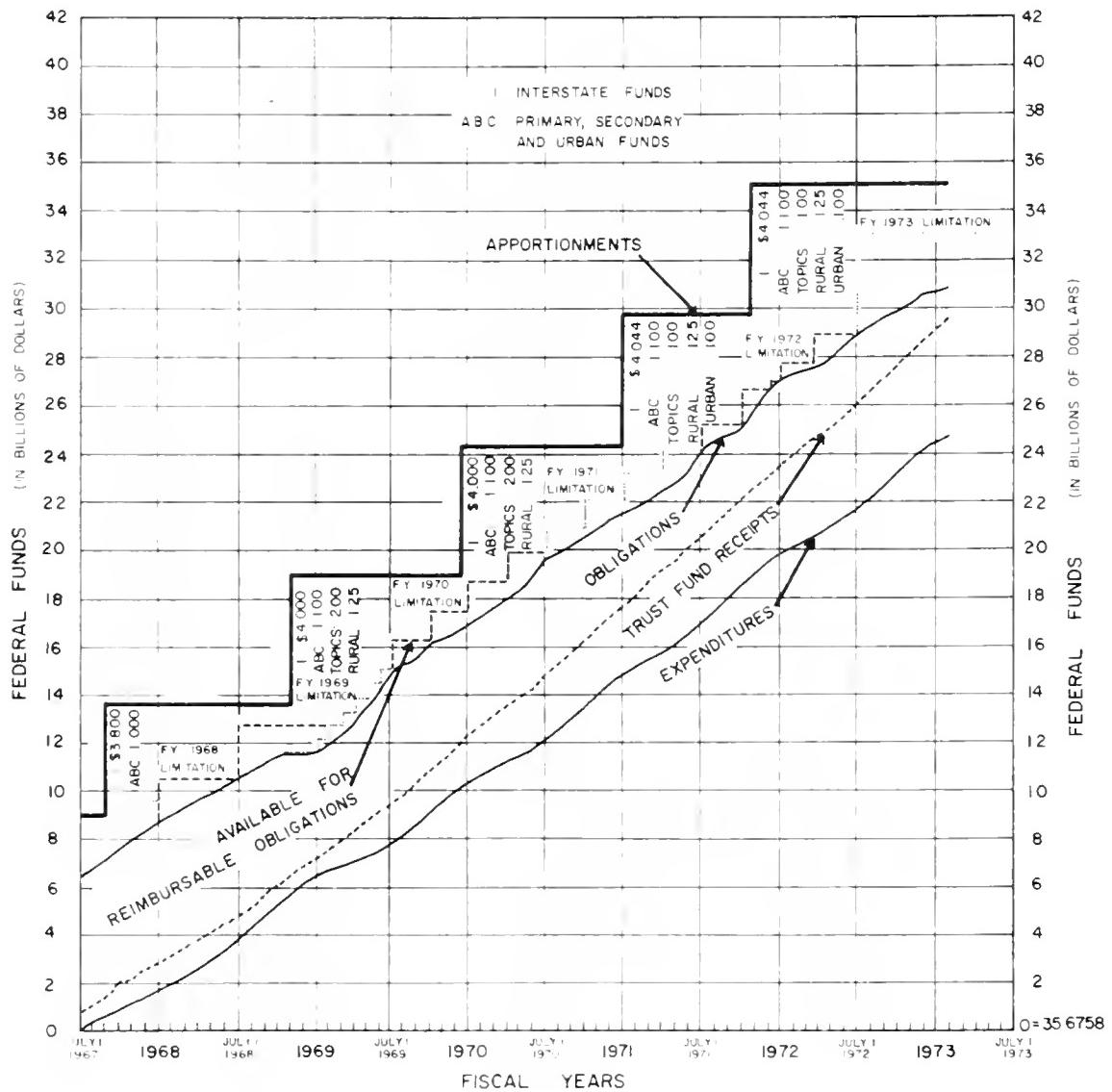


FIGURE 125. FEDERAL AID HIGHWAY PROGRAM FINANCING ¹³

If funds are not obligated by project agreement by the end of the second fiscal year following the year for which they were authorized, they lapse and are reapportioned.] Consequently, highway funds have not been withheld on a permanent basis.

Because funds have been withheld on an overall program basis rather than on a system basis, the Indiana State Highway Commission has been able to obligate all but a fraction of its full Interstate apportionment. Any State could obligate funds in any amount below its apportionments for each program provided that the total obligations for all highway system programs did not exceed the overall highway program obligation limitation. Because funds were not withheld on a system basis, the effect of withholding on the Indiana Interstate program is unknown.

Because expenditures on the Interstate System in Indiana had reached a peak just prior to the initiation of withholding and because the amount of funds withheld was based on a percentage of the previous fiscal year's expenditures, Indiana did not feel the funding squeeze for several years. However, when fiscal year Interstate apportionments to Indiana were reduced from \$55 million to \$39 million, Indiana experienced the funding squeeze. The withholding of funds then aggravated the situation.

The cumulative Interstate apportionments for Indiana appear in Table 29, p. 799. Based on the 1972 estimate of the total Federal cost of the System in Indiana, Indiana needs additional apportionments amounting to \$215.6 million for the fiscal years following 1973 to complete the System. Indiana must provide \$19.4 million in State matching funds.

On the basis of the 1974 estimate of the total Federal cost of the System, Indiana needs additional Federal apportionments amounting to \$259.5 million for the fiscal years following 1973. Since the Interim 1973 Highway Act apportioned \$11,636,625 to Indiana for fiscal year 1974, the State still needs \$247.8 million in Interstate apportionments to complete the System.

TABLE 29. INTERSTATE FUNDS APPORTIONED TO
THE STATE OF INDIANA BY LAW

Fiscal Year	Federal Act	Date Apportioned	Matching Basis	Amount ^{a,b} Appportioned	Cumulative ^{a,b} Apportionment
1954	1952	10-30-52	50-50	\$ 595,500.00	\$ 595,500.00
1955	1952	12-23-52	50-50	596,664.00	1,192,164.00
1956	1954	6-21-54	60-40	4,219,185.00	5,411,349.00
1957	1954	8-09-55	60-40	4,222,758.00	9,634,107.00
	1956	6-29-56	90-10	24,326,684.00	33,960,791.00
1958	1956	8-01-56	90-10	41,355,363.00	75,316,154.00
1959	1956	8-01-57	90-10	48,331,490.00	123,647,644.00
	1958	4-16-58	90-10	4,857,436.00	128,505,080.00
1960	1958	7-21-58	90-10	71,739,500.00	200,244,580.00
1961	1961	10-08-59	90-10	51,392,880.00	251,637,460.00
1962	1961	7-22-60 12-30-60	90-10	62,456,625.00	314,094,085.00
1963	1961	8-17-61	90-10	59,273,700.00	373,367,785.00
1964	1961	11-28-62	90-10	64,213,175.00	437,580,960.00
1965	1961	7-08-63	90-10	66,345,277.00	503,926,237.00
1966	1961	8-18-64	90-10	69,152,650.00	573,078,887.00
1967	1965	8-30-65	90-10	64,950,900.00	638,029,787.00
1968	1966	10-07-66	90-10	73,909,948.00	711,939,735.00
1969	1966	11-29-67	90-10	82,479,950.00	794,419,685.00
1970	1968	10-31-68	90-10	76,711,800.00	871,131,485.00
1970	1968	Lapsed 1970 Wash. D.C. Funds		952,368.00	870,179,177.00
1971	1968	12-15-69	90-10	76,322,400.00	946,501,517.00
1972	1970	12-31-70	90-10	55,272,000.00	1,001,773,517.00
1973	1970	12-31-70 11-01-71 (Rev.)	90-10	55,272,000.00	1,057,045,517.00
Estimate: 1974-75				39,000,000.00	
1976-79				35,000,000.00	

^aFederal administrative markdown already excluded.

^bHighway Planning and Research Funds included.

Table 30 (p. 801) documents the status of Federal Aid Highway Program financing in Indiana. The actual apportionments by law exclude the Federal markdown for administration of the highway program. A graphical illustration of the Federal funds apportioned, released, obligated and collected in Indiana appears in Figure 126 (p. 802) on an annual basis and in Figure 127 (p. 803) on an annual cumulative basis.

The utilization of Interstate funds by Indiana is recorded in Table 31 (p. 804). Prior to 1957, the Indiana State Highway Department lacked sufficient funds to match the Federal Interstate funds available. After the fuel tax in Indiana was increased from four to six cents per gallon in the spring of 1957, the State had sufficient matching funds. However, the level of operations was not initially adequate to eliminate the backlog of unobligated funds. As the Interstate Program began to gain momentum in Indiana, the State obligated a greater amount of the Federal funds released for obligation. In June of 1961, Indiana started to eliminate the backlog of unobligated funds. Since January of 1971, Indiana has ranked third among the States in terms of funds obligated.

Based on the 1972 Interstate Cost Estimate (which included \$33,475,000 in non-Interstate funds), Indiana needs to obligate approximately \$310 million in State and Federal funds to complete the System. [Refer to Table 32 , p. 805]. On the basis of the 1974 Interstate Cost Estimate (which includes \$65,604,000 in non-Interstate funds) Indiana needs to obligate \$382 million in State and Federal Funds to complete the System as of February 28, 1973. [Refer to Table 33, p. 805].

Considering the total cost of the System on the basis of the 1972 Interstate Cost Estimate, the System was 78.7 percent complete in terms of cost on February 28, 1973. Excluding the cost to be financed with other than Interstate

TABLE 30. FEDERAL HIGHWAY PROGRAM FINANCING IN INDIANA

Fiscal Year Received	Fiscal Year Authorized	Actual Apportionments		All Highway Programs		All Highway Programs		Federal Funds Obligated		Federal Funds Collected	
		All Highway Programs	Interstate	Cumulative Interstate		All Highway Programs	Interstate	All Highway Programs	Interstate	All Highway Programs	Interstate
1952	1954	13,673,545	595,500	595,500							
1953	1954	13,712,021	596,664	1,192,144							5,3,316
1954	1956	21,035,778	4,213,185	5,611,364							458,417
1955	1957	48,355,134	28,549,442	33,960,791							59,980
1956	1958	61,702,092	41,355,363	75,316,154							2,210,582
1957	1959	83,501,692	53,188,926	128,505,080							413,624
1958	1966	93,181,726	71,739,500	200,244,580							43,311,810
1959	1961	73,122,784	51,392,880	251,637,460							16,058,243
1960	1962	83,853,125	62,456,625	314,094,085							1,25,860
1961	1973	74,924,804	51,273,700	373,367,785							46,072,013
1962	1974	86,166,714	54,213,175	437,580,960							83,576,670
1963	1965	88,614,025	60,445,277	503,925,237							52,073,438
1964	1966	91,686,347	69,152,650	573,078,927							42,254,634
1965	1967	87,477,466	64,950,900	638,029,787							46,955,482
1966	1968	96,318,521	72,801,293	b	710,831,086	135,569,500	70,329,745	73,157,960			67,869,003
1967	1969	104,924,330	81,242,751	b	792,073,837	135,569,500	51,502,279	84,761,130			65,476,032
1968	1970	108,391,603	75,581,124	b	967,634,961	135,569,500	51,502,279	92,817,503			70,514,838
1969	1971	107,831,427	75,117,564	b	942,752,525	105,300,671	51,502,279	89,667,260			73,730,467
1970	1972	86,310,164	54,442,920	b	997,195,445	97,854,000	96,769,799	98,239,993			113,323,600
1971	1973	87,472,286	54,442,920	b	1,051,638,365	87,126,000	87,425,231	50,321,728			90,899,627
1972	1974	72,175,160	40,838,000	b,c	1,092,476,365	51,300,671	45,334,106	104,805,496			141,260,300
1973	1975										111,206,490
1974	1976										98,239,993
1975	1977										78,515,664
											79,909,685

aFederal Highway Trust Fund Monies only.

bIncludes Highway Planning and Research Funds at 1.5% of total apportionment.

cEstimate.

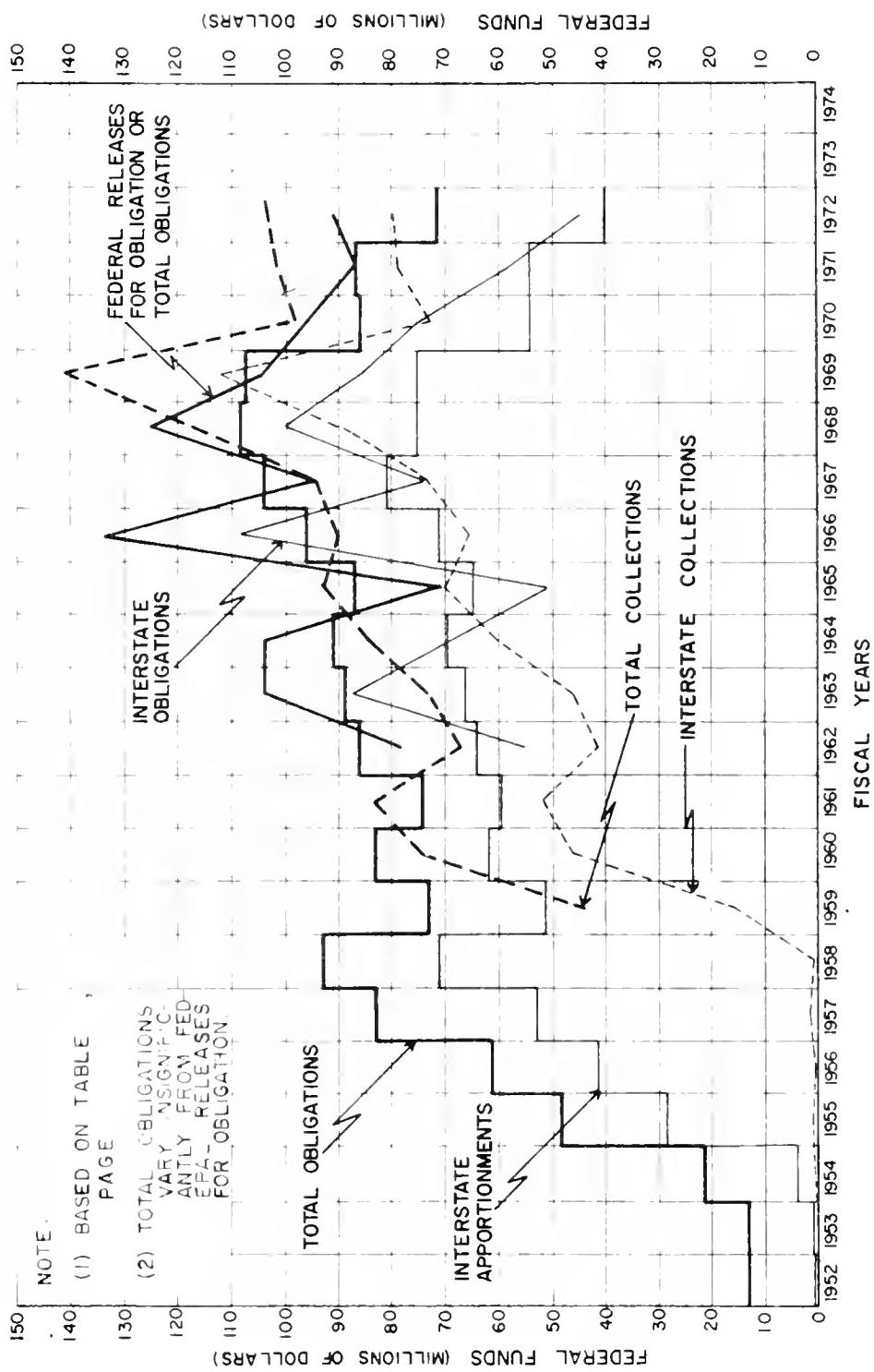


FIGURE 126. INTERSTATE FEDERAL AID FINANCING: APPORTIONMENTS, RELEASES, OBLIGATIONS, AND COLLECTIONS IN INDIANA ON A FISCAL YEAR BASIS

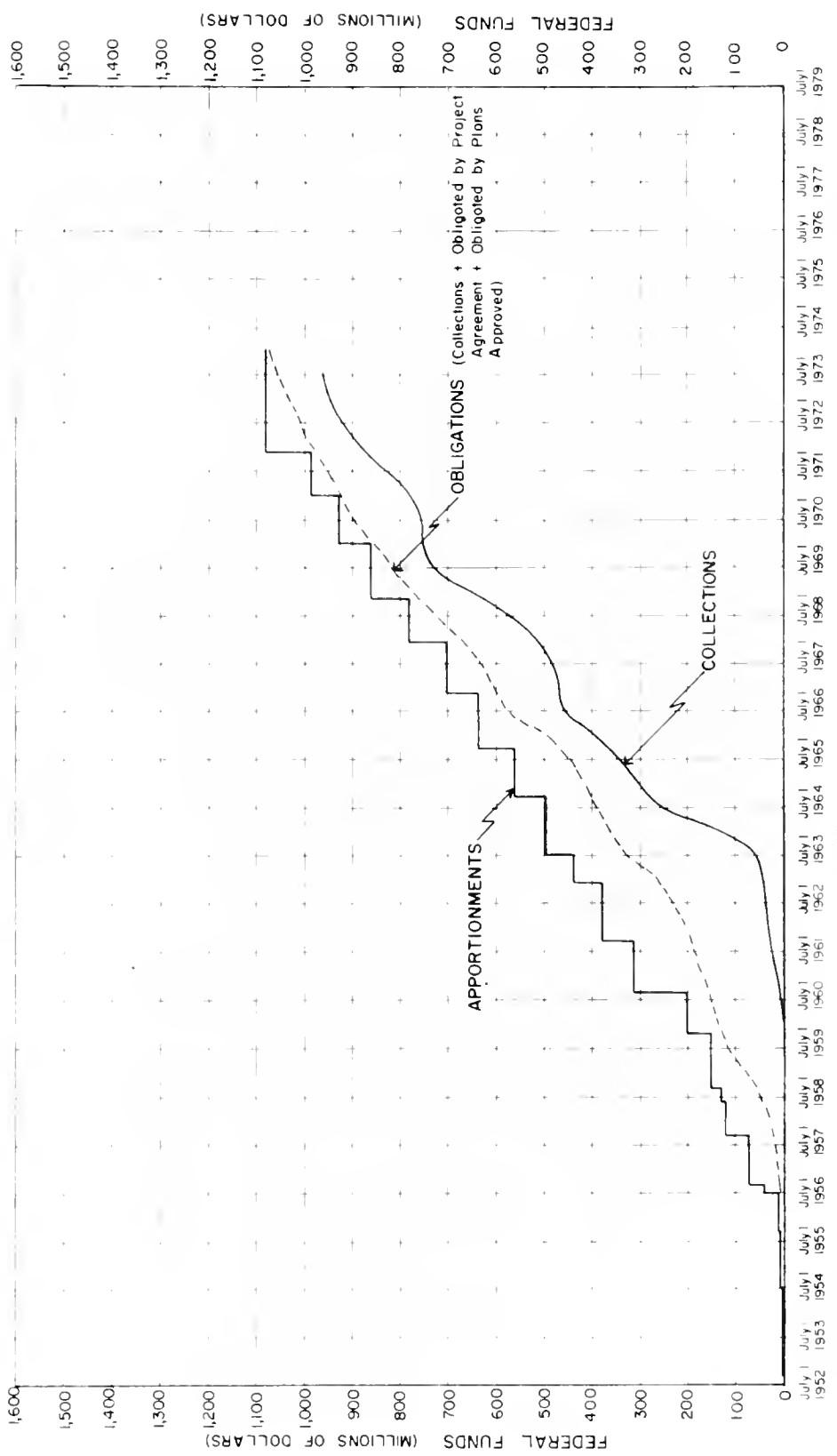


FIGURE 127. INTERSTATE FEDERAL AID FINANCING: APPORTIONMENTS, OBLIGATIONS, AND COLLECTIONS IN INDIANA ON A CUMULATIVE BASIS

TABLE 31. STATUS OF INTERSTATE FUNDS IN INDIANA¹⁴

(DOLLARS)

	53	54	55	56	57	58	59
Total Apportionment to June 30, 19--	595,000.00	1,192,164.00	5,411,349.00	33,960,721.00	75,316,154.00	128,505,080.00	200,344,580.00
Collected by Final Voucher	----	----	----	----	----	240,433.55	1,472,358.28
Obligated by Project Agreement	1,174,283.00	1,192,164.00	1,192,164.00	3,991,566.00	11,165,879.00	62,922,357.42	
Obligated by Plans Approved	----	----	----	28,060.00	12,021,070.00	34,082,996.00	50,319,441.00
Obligated by Program Approved	8,392.00	17,481.00	63,287.00	2,471,428.00	356,013.00	36,075,729.00	36,653,231.50
Less Totals Collected and Obligated	8,392.00	1,192,164.00	1,255,451.00	3,991,652.00	16,377,669.00	81,515,377.00	151,768,488.20
Total Federal Funds Available	586,588.00	0	4,155,898.00	30,269,139.00	58,938,485.00	46,489,142.45	48,976,091.80

	60	61	62	63	64	65	66
Total Apportionment to June 30, 19--	251,637,466.00	314,094,085.00	373,367,785.00	432,580,960.00	494,292,130.00	563,444,780.00	638,029,787.00
Collected by Final Voucher	4,869,762.17	19,114,279.64	37,282,855.63	54,569,533.45	262,904,513.33	344,880,138.96	410,601,067.47
Obligated by Project Agreement	109,447,300.46	147,205,210.80	171,887,623.73	207,143,602.02	57,916,552.42	53,124,842.11	81,662,916.95
Obligated by Plans Approved	38,322,433.00	20,234,398.00	30,374,823.00	61,729,888.00	49,384,084.58	58,597,346.17	75,521,413.00
Obligated by Program Approved	22,262,866.00	21,891,256.00	25,484,166.00	29,943,561.00	55,562,537.01	88,977,597.00	53,025,649.00
Less Totals Collected and Obligated	174,892,361.63	208,445,844.04	264,929,468.42	353,386,604.47	443,797,687.34	535,579,932.24	620,811,046.42
Total Federal Funds Available	76,745,098.37	105,648,240.56	108,438,316.58	84,194,355.53	50,524,442.66	27,864,847.76	17,218,740.58

	67	68	69	70	71	72
Total Apportionment to June 30, 19-- ^a	702,717,869	783,969,325	859,530,448	925,167,821	979,610,741	1,043,694,187
Collected by Final Voucher	480,364,275	567,766,862	688,704,370	753,022,075	831,537,739	920,861,000
Obligated by Project Agreement	112,319,505	128,069,247	104,777,520	113,085,073	95,632,266	71,182,960
Obligated by Plans Approved	44,059,464	32,367,136	29,446,978	22,628,945	19,867,816	9,937,833
Obligated by Program Approved	35,054,994	25,861,888	18,018,526	11,365,935	3,779,566	28,910,018
Less Totals Collected and Obligated	621,798,538	763,065,133	840,947,394	909,691,901	950,837,387	1,030,891,811
Total Federal Funds Available	30,919,351	20,904,192	18,583,054	25,065,793	28,773,354	12,802,376

^a Highway Planning and Research Funds excluded for fiscal year 1967 and thereafter.

TABLE 32. ESTIMATE OF FUNDS REQUIRED TO COMPLETE THE INTERSTATE SYSTEM BASED ON THE 1972 INTERSTATE COST ESTIMATE

(DOLLARS)

Interstate	64	65	69	70	74	80	90	94	164	265	275	465	Totals
Estimated Cost to Complete as of 12-31-70	114,372,000	64,531,000	5,312,000	5,312,000	11,321,100	25,275,000	11,151,100	11,036,000	27,036,000	17,272,000	24,259,000	13,913,000	414,714,000
Less Obligated Since 12-31-70	10,581,948	1,427,513	26,030	4,921,281	1,139,361	11,156,284	0	5,792,439	0	31,182	1,316,344	1,792,142	35,029,849
Balance Not Obligated as of 6-30-71	94,390,452	68,311,497	15,217,013	58,940,717	11,161,361	21,141,284	20,151,000	4,261,501	27,036,000	17,140,817	23,639,656	12,120,838	379,684,151
Less Obligated Since 6-30-71	19,533,164	1,394,938	27,257	8,224,475	1,121,267	1,882,350	0	1,044,744	0	184,300	7,040	- 493,615	32,186,446
Balance Not Obligated as of 12-30-71	74,851,298	66,920,629	15,139,751	50,638,241	15,838,424	19,538,934	10,151,000	4,150,452	27,036,000	17,006,517	23,632,616	12,614,473	347,424,505
Less Obligated Since 12-30-71	8,486,973	810,270	26,532	6,156,687	1,239,981	- 533,209	0	789,348	0	9,431,366	0	- 287,158	12,144,454
Balance Not Obligated as of 6-30-72	72,264,315	56,110,359	15,165,229	51,151,928	15,962,075	20,092,143	20,151,000	3,367,504	27,036,000	7,515,151	23,632,616	12,901,631	335,359,051
Less Obligated Since 6-30-72	13,105,206	- 75,393	162,522	1,349,738	1,252,324	- 301,341	0	- 5,183	0	3,610,329	6,192,017	- 121,152	24,486,006
Balance Not Obligated as of 12-31-72	54,159,115	66,365,732	15,000,607	4,913,790	14,709,581	21,393,484	20,151,000	3,377,212	27,036,000	3,924,822	17,432,594	13,022,783	310,864,045
Less Obligated Since 12-31-72	6,461,950	- 386,571	1,213	3,698,024	0	0	0	279,952	0	0	0	- 2,511	1,139,962
Balance Not Obligated as of 2-28-73	61,622,265	67,955,325	14,983,624	16,105,966	14,709,681	20,393,430	20,151,000	3,097,253	27,036,000	3,924,822	17,439,599	13,025,294	309,724,083

TABLE 33. ESTIMATE OF FUNDS REQUIRED TO COMPLETE THE INTERSTATE SYSTEM BASED ON THE 1974 INTERSTATE COST ESTIMATE

(DOLLARS)

Interstate	64	65	69	70	74	80	90	94	164	265	275	465	Totals
Estimated Cost to Complete as of 12-31-72	79,293,000	86,449,000	17,471,000	54,183,000	18,639,000	26,985,000	26,470,000	6,730,000	28,572,000	5,710,000	11,897,000	20,992,000	383,390,000
Less Obligated Since 12-31-72	- 2,463,850	- 386,571	14,913	3,698,024	0	0	0	279,952	0	0	0	- 2,511	1,139,962
Balance Not Obligated as of 2-28-73	81,756,850	86,834,573	17,456,987	50,449,975	18,639,000	26,985,000	26,470,000	6,450,641	28,572,000	5,710,000	11,897,000	20,994,511	382,250,036

and State matching funds, Indiana needed \$276 million to complete the System. Consequently, the System was 80.6 percent complete in terms of Interstate and State matching funds obligated on February 28, 1973.

On the basis of the 1974 estimate of the total cost of the System, the System was 78.4 percent complete in terms of cost on February 28, 1973. Excluding the cost to be financed with other than Interstate and State matching funds, Indiana needs to obligate only \$317 million to complete the System. This implies that the System was 78.4 percent complete in terms of Interstate and State matching funds obligated on February 28, 1973.

Referring to Table 14 (p. 759), Indiana needed \$221,090,000 in Federal apportionments in the fiscal years following 1973 to complete the System. If Indiana is apportioned \$39 million for fiscal years 1974 and 1975 and \$35 million for the fiscal years thereafter, Indiana will not be able to complete the System until June 30, 1979.

Because the apportionment of funds is based on the cost to complete the System in each State and because Indiana has completed roughly seventy-five percent of the System in terms of cost, Indiana will continue to receive a decreasing amount of Interstate funds.

Indiana has to complete the most expensive and complicated portions of the System under the current and anticipated condition of low funding. Except for Interstate 64, these segments of the System are in urban areas. The financial squeeze is made burdensome by the fact that the allocation of funds to any one of the remaining portions requires a majority of the funds available in any one year. Because funds are released for obligation on a quarterly basis, there are insufficient funds to let a contract for an entire portion of an uncompleted route.

To cope with these current financial limitations, the Indiana State Highway Commission has reduced the size of

contracts on the uncompleted portions of the System. In effect, the construction time for the remainder of each route has been stretched. However, the State is able to utilize the limited amount of funds in this manner and is able to show progress on all of the remaining portions of the System yet to be completed.

Interstate Work Load

Each Division of the Indiana State Highway Commission experienced a peak Interstate work load in accordance with the general development process. Because of the size of the Interstate Program and a lack of personnel, the State utilized consultants throughout the Program.

Prior to 1971, the personnel of the Planning Division devoted seventy-five to eighty percent of their time on the Interstate Program. In the case of road locations and surveys, sometimes all the work was on Interstate projects. Consultants selected and evaluated alternatives on a majority of the Interstate Routes. In many cases, the Planning Division developed and compared subalternatives on the basis of the general alternatives of the consultants.

Although the Interstate location function peaked in the early part of the Interstate Program, the coordination of the Interstate Program with local governments continued throughout the Program. This Division was responsible for access control resolutions, public hearings and initial participation in local highway coordinating committees. The division was also responsible for preparation of the series of Interstate Cost Estimates. Approximately every two years, the work load of one section of the Division temporarily shifted almost entirely to the preparation of a cost estimate. As of 1973, only Interstate 164 remains to be located.

Gauging the design work load in 1957, the Indiana State Highway Department recognized the need for consultants

to increase the momentum of the Program. Since 1958, consultants have performed most of the design work for the Interstate Program. Nevertheless, the members of the Design Division spent seventy percent of their time on the Interstate Program from 1962 to 1970.

The Division spent much of its time reviewing the work of consultants and coordinating the design with local governments and the Federal Highway Administration. The Interstate work load for the Division was at its peak from 1965 through 1967. In 1972, the Interstate Program accounted for less than thirty percent of the work load. The Interstate System as of 1973 has been completely designed with the exception of Interstate 164.

During the peak years of land acquisition for the System, the Division of Land Acquisition had as many as eighty-two staff appraisers and 126 fee appraisers. In 1972, the number of appraisers dropped to thirty on the staff and twenty-five to thirty consultants. Roughly sixty percent of the appraisals for land acquired for the System were performed by fee appraisers. However, all appraisals were reviewed in house except some appraisals of a nominal amount.

Since 1962, the Indiana State Highway Commission has provided relocation advisory services to families and businesses displaced by highway construction. Since April of 1967, Indiana has provided relocation payments. In Indianapolis, the Indianapolis Redevelopment Department and its subcontractors (Flanner House and Community Action Program Agency of Indianapolis) provided relocation advisory services for 1260 families. However, these agencies performed a referral function for the Indiana State Highway Commission. The State processed all relocation payments and never delegated its relocation responsibility to a local agency.

The peak years of land acquisition and relocation for the Interstate System spanned the period from 1962 through the first half of 1970. By July of 1972, all land had been acquired for the Interstate System except that for Interstate 164.

The work load of the Construction Division began its increase in 1958. However, there was no corresponding increase in personnel. The number of employees remained constant at the central office and only increased slightly at the district offices. Approximately sixty percent of the Division time in many of the years was spent on the Interstate Program. Construction on the System peaked in 1969 and fell below that of other systems in fiscal year 1972. Table 34 (p. 810) records the construction work load over time.

Because the Interstate System is very young compared to other systems, the Interstate maintenance work load has only recently begun to increase. The Interstate System however, will perhaps be the most expensive system to maintain because of the width of right-of-way, extensive landscaping and rest areas, numerous signs and markings, numerous structures, high types of pavements and shoulders, and heavy traffic loads.

The total number of employees of the Highway Commission increased during the early 60's (see Table 35 , p. 811), remained fairly constant from 1965 through 1968 and decreased in 1969 and 1970 to a lower level. This increased number of personnel to the level of 1964-1968 resulted from the demands of the Interstate Program. The reduction of 1969 and 1970, however, occurred during a period of still heavy Interstate activity in most Highway Divisions.

Although the Indiana State Highway Commission utilized consultants to perform much of the increased work load due to the Interstate Program, it also initiated many innovations to reduce the labor intensive work. These innovations

TABLE 34. TOTAL CONTRACTS LET AND AWARDED¹⁵
(MILLIONS OF DOLLARS)

Calendar Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 est.
Total Contracts Let & Awarded For All Highway Programs	66.1	91.7	125.6	96.5	83.4	141.5	124.5	132.5	133.7	164.3	152.6	158.0
Total Contracts Let & Awarded For Four Year Period			379.9	Total ^a		481.9	Total			608.6	Total	
Increase in Total Contracts Let & Awarded Over Previous Four Year Period			29.9	Increase		102.0	Increase			126.7	Increase	

^a1957-1960
Est. 350 million

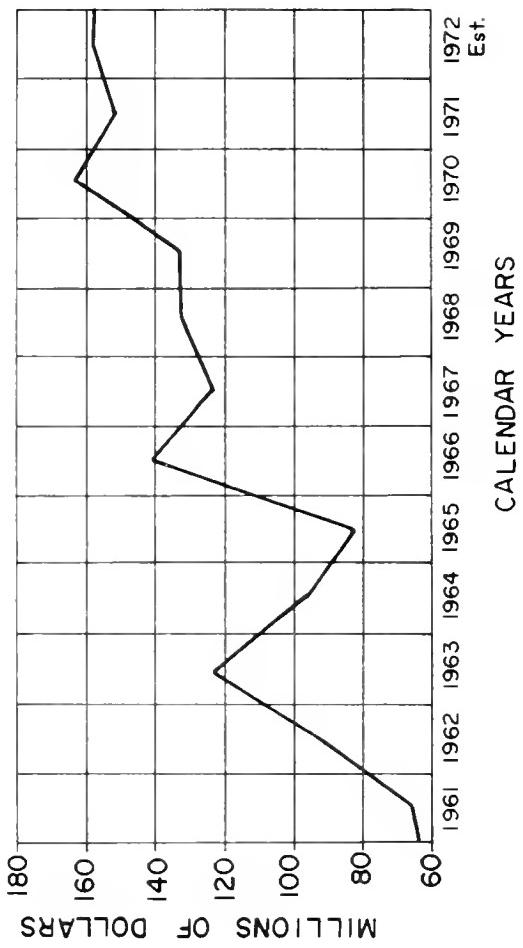
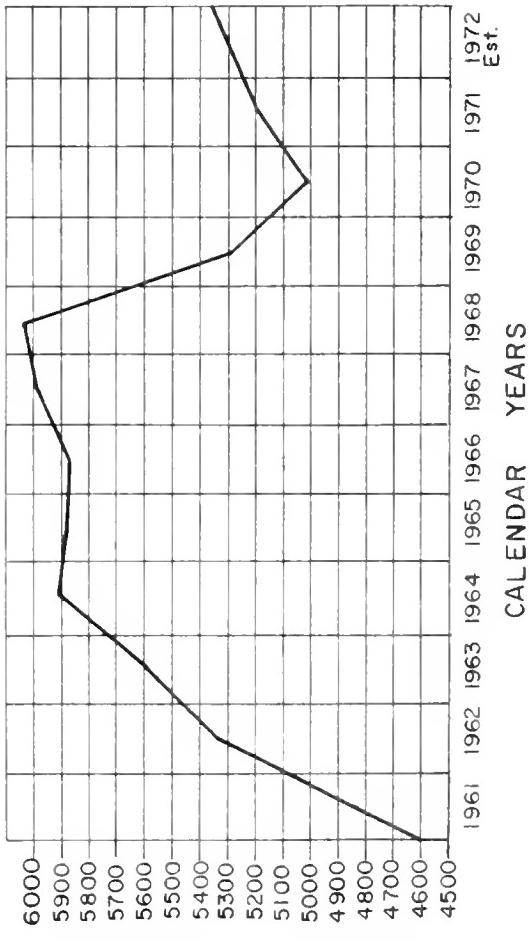


TABLE 35. AVERAGE NUMBER OF EMPLOYEES IN THE INDIANA STATE HIGHWAY COMMISSION¹⁶

Calendar Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 Est.
Number of Employees	4826	5338	5598	5925	5893	5869	5990	6043	5275	5010	5191	5300
Average Number of Employees for Four Year	5421	Average ^a				5948	Average			5194	Average ^b	
Increase in Average Number of Employees over Previous Four Year Period	+ 1145	+ 26.8 %			+ 527	+ 9.7 %			- 754	-	- 12.7 %	

^a 1957-1960 average was 4276.

^b Governor's 10% personnel cut was initiated in 1969.



CALENDAR YEARS

undoubtedly enabled the Commission to carry a heavier work load without a corresponding increase in personnel or consultants. The Interstate Program brought about increased utilization of aerial photography and photogrammetry, computer utilization, scheduling processes, and other management innovations.

Notes

1. A Report on Factors for Use in Apportioning Funds, House Doc. #300, 85th Congress, 2nd Session; The 1961 Interstate System Cost Estimate, House Doc. #49, 87th Congress, 1st Session; The 1965 Interstate System Cost Estimate, House Doc. #42, 89th Congress, 1st Session; The 1968 Interstate Cost Estimate, House Doc. #197, 90th Congress 1st Session; The 1970 Interstate Completion Cost Estimate House Doc. #317, 91st Congress, 2nd Session; and The 1972 Interstate System Cost Estimate, House Public Hearing Document, Committee on Public Works, Communication, 92nd Congress, 2nd Session (Doc. Y4.P96/11, C,92-2) Washington, D.C.: U.S. Government Printing Office).
2. Indiana State Highway Commission, Division of Planning, The 1958, 1961, 1965, 1968, 1970, 1972, and 1974 Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Indiana (Indianapolis: ISHC; July 1, 1957; August 1, 1960; August, 1964; August 1967; March, 1970; August, 1971; and August, 1973), Table D.
3. A Report on Factors for Use in Apportioning Funds and The 1961, 1965, 1968, 1970, and 1972 Interstate System Cost Estimates.
4. A Report on Factor for Use in Apportioning Funds and The 1961, 1965, 1968, 1970, and 1972 Interstate System Cost Estimate.
5. Indiana State Highway Commission, Division of Planning, 1965 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1961 Estimate (Indianapolis: Indiana State Highway Commission, 1964).
6. The 1965 Interstate System Cost Estimate, p. 12.
7. Indiana State Highway Commission, Division of Planning 1968 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1965 Estimate (Indianapolis: Indiana State Highway Commission, 1967).

8. Indiana State Highway Commission, Division of Planning, 1970 Interstat Cost Estimate: Cost Analysis of Increase in Cost over 1968 Estimate (Indianapolis: Indiana State Highway Commission, 1970).
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12. Based in part on Annual Report on the Financial Condition and Operation of the Highway Trust for Fiscal Year 1972, House Doc. #54, 93rd Congress, 1st. Session (Washington D. C.: U.S. Government Printing Office; March 5, 1972), p. 9.
13. Department of Transportation, Federal Highway Administration, Program Progress (Washington, D. C.: Federal Highway Administration, aperiodic)
14. Indiana State Highway Commission, Annual Report (Indianapolis: Indiana State Highway Commission, fiscal year basis).
15. Indiana State Highway Commission, Progress Report, 1969-1973 (Indianapolis: Indiana State Highway Commission, November 20, 1972), p. 3.
16. Progress Report, 1969-1973, p. 30.

CHAPTER VIII

GENERAL BENEFITS

This final chapter discusses the general expected benefits of the Interstate Highway System for the nation and the State of Indiana. The effect of the Interstate Program on other Indiana highway programs is also reviewed and a summary of the conditions that affected the implementation of the Interstate Program in the state is presented.

Benefits

The Interstate Program unquestionably will have a profound effect on the citizens and economy of the Nation. Many planners anticipate significant and wide-ranging benefits for both the highway user and the community. Others note that short and long range detrimental impacts on social and environmental values and on other transportation modes may be expected.

Because of the tight traffic corridor around the Great Lakes, Indiana is unique in that it has more Interstate mileage than any other State based on land area, population, or vehicle registration. Indianapolis is unique in that it has seven Interstate legs converging on the city (one more leg than any other city, except Chicago). This may mean that Indiana could receive proportionally greater impacts from the Interstate System than most other States.

Already demonstrated benefits of the Interstate System are those of increased accessibility and safety. Proponents expect future impacts to include a stronger economy for Indiana and increased welfare for its citizens.

User Benefits

One of the most significant user benefits is an approximate ten percent reduction in highway travel time between cities. As the length of trip increases, the reduction in travel time becomes even greater. Cost of travel is also reduced. Despite the fact that speeds above fifty miles per hour result in increased fuel consumption, overall fuel consumption is reduced by using Interstate routes. Fewer stops, more gentle slopes and broader curves cause lower overall fuel consumption.

In 1971, the partially completed Interstate System in Indiana exhibited a thirty-three percent lesser rate in accidents per vehicle-mile and a thirty percent decreased rate in fatalities per vehicle-mile than the Primary Highway System. This accident reduction is a direct result of full access control, paved shoulders, unobstructed medians and shoulders, buried-end guardrails to protect vehicles from obstructions within a thirty-foot recovery area, shoulder width structures, gentle slopes, superior signing, the utilization of structures with impact attenuation devices, and rest parks.

The Interstate also provides increased comfort and convenience to the driver. Fully controlled access and less congestion on the System make travel more pleasant for the driver and passengers.

Due to the many Interstate bypasses which divert through traffic from many existing urban routes, traffic volumes on these formerly heavily traveled routes have often been reduced fifty percent or more. Consequently, local traffic also receives benefits from decreased congestion in lower travel times, lower vehicle operating costs, increased safety and increased comfort and convenience.

Due to decreased travel times and vehicle operating costs, the cost of shipping goods is significantly cheaper using the Interstate System than other highways. As a

consequence, truck terminals have begun to relocate near the Interstate System to realize the benefits of lower shipping costs. On the other hand, the strengthened position of the trucking industry in competition with other modes of transport has led to further financial difficulties in rail transportation and aggravated the problem of maintenance of these necessary facilities.

Community Benefits

•By highway induced reorganization of land use and highway oriented reorganization of the processes of production, distribution and consumption, the Interstate highways serve as a means by which the forces of population growth, increased productivity and higher living standards function to transform the economic and social patterns of American life.¹

Due to increased accessibility, the Interstate has altered the economic potential of land, influencing land use and development of the community. Changes in land value reflect the economic potential of land. Increases in land value along the Interstate routes, which almost always have occurred, generally decrease with increasing distance from the facility. Due to the fact that the Interstate System is a fully controlled access facility, accessibility also varies along the facility. Consequently, increases in land value are concentrated at the interchange areas which have the highest degree of accessibility. The interchange areas have become nodes of high land value, and land value decreases with increasing distance from the interchange.

Because the Interstate System provides greater accessibility than other highway developments, the System's location will also probably be a greater determinant of community development than other highway developments. The System opens land for possible major development and serves as a development catalyst. Where Interstate routes have been located through existing development, the use of land along the

facility is often greatly altered. Single family residential and agriculture uses near interchanges have often been replaced by more intense use development, such as apartments or commercial facilities.

It is also clear that the Interstate System influences growth of small communities within its corridor. Small communities distance from the System generally continue to stagnate or decline in population, depending on the trend of the community before the Interstate. On the other hand, communities along the System and within commuting distance of metropolitan areas have experienced a surge in population.

In Indianapolis, the Interstate freeway system is expected to aid in the revitalization of the central business district. The urban freeways will make the downtown area more accessible to the suburbs. The freeways will also remove through traffic or crosstown traffic from surface streets in the CBD. The result anticipated is reduced peak hour congestion in the central area and better circulation for local traffic. The reduction of traffic volumes on arterials in the CBD is also expected to permit a more unified and integrated core.

The Interstate freeways have severed some neighborhoods in the Indianapolis area and some expect this impact to be serious. Others note that the Interstate has diverted cross-town traffic from arterials that already had split many of these neighborhoods. They claim the result may be overall reductions in noise and pollution levels throughout the community as the elimination of frequent vehicle stops reduces both.

Another probable influence of the System will be reflected in the relocation of industrial, retail and service establishments to make possible the realization of increased economies of scale. Such activities can now be larger and more widely spaced because they can serve conveniently and economically greater market areas. Intraurban goods

distributors may also realize significant cost savings where they are able to utilize the System.

It is also clear that through a reduction in commuting time, the Interstate System has broadened the labor and job market. The employer has a larger and more diversified labor pool. The employee who has access to a motor vehicle has a greater choice of jobs and can locate employment with greater ease. However, the low income individual, such as some minority groups in the central city of Indianapolis because of economic reasons may not have a vehicle and may find industry even less accessible than before.

Interstate highways also increase accessibility for many persons to shopping centers, medical facilities, educational activities, recreational developments, and other public facilities. Many rural residents can now more easily reap the cultural and educational rewards of the urban area yet still enjoy life in the rural environment.

The Interstate System has adversely affected some businesses. The diversion of traffic from existing routes resulted in a loss of customers for some highway-oriented businesses that were bypassed. Some have relocated along the Interstate Route; others lacked the capital to relocate or were unwilling to start again in a new location. Their survival depends on the ability of the owner to reorient his activity from a dependence on through traffic to service to the local area. Some will undoubtedly cease to operate.

The System has also adversely affected low income minority groups and small businesses in the central city of Indianapolis through displacement. Because of limited financial resources, these individuals were least able to bear the social costs of the new freeway facilities despite relocation payments. Although advance land acquisition began on the Indianapolis Interstates on a willing-seller basis in 1963, Indiana lacked the necessary legislation to make relocation and supplement housing payments until April of 1967. From 1962

to April 1967, Indiana provided only relocation advisory assistance.

From April of 1967 to June of 1972 (after most of the Interstate acquisition had been completed in Indianapolis), the Indiana State Highway Commission made relocation assistance payments to businesses and residents amounting to \$3,120,846. Between April 1, 1967 and September 30, 1968, moving payments averaged \$117 per dwelling unit. From October 1, 1968 to June 30, 1973, moving payments averaged \$222 per dwelling unit. Roughly one-quarter of these same families also received replacement housing payments averaging \$1,827 per dwelling unit. Roughly one-half of these families received rental supplements averaging \$826 per dwelling unit. These averages are very rough because eligibility requirements and relocation payment provisions changed during the periods noted.

Table 23 (p. 784) gives an idea of the fiscal year expense for relocation assistance including payments and administration. A summary of the relocation statistics for fiscal years 1969 through 1972 appears in Table 36, p. 820. Payments amounting to \$67,501 were made in fiscal year 1973. On the basis of the quarterly reports of the Relocation Section of the Division of Land Acquisition of the Indiana State Highway Commission from October 1, 1965 to June 30, 1973, an analysis of relocation assistance and payments by various categories appears in Tables 37, 38 and 39, pages 821 and 822.

Over ninety percent of the displacement by the Interstate System occurred in Marion County. From 1963 through 1972, an estimated 7,800 families were displaced by the System. Based on relocation statistics since April 1, 1967, roughly forty percent of the families received relocation payments. Although advisory assistance was offered to all who were displaced, only an estimated 5000 families took advantage of the service. The Relocation Division of the Redevelopment

TABLE 36. RELOCATION STATISTICS FOR INTERSTATE²

ITEM	FISCAL YEAR 1969		FISCAL YEAR 1970		FISCAL YEAR 1971		FISCAL YEAR 1972	
	INTERSTATE URBAN	INTERSTATE RURAL						
# OF RELOCATEES (UNITS)	1,431	81	385	117	84	63	26	15
OWNERS	510	42	190	98	42	52	14	10
TENANTS	921	39	195	19	42	11	10	5
DWELLINGS	1,198	67	259	78	59	28	10	7
BUSINESSES	226	14	126	39	25	35	16	8
NONPROFIT ORG.	7	0	0	0	0	0	0	0
PAYMENTS	\$579,924.95	\$ 23,434.00	\$1,412,513.65	\$169,059.02	\$300,050.13	\$93,567.87	\$223,822.00	\$21,867.00

TABLE 37. ANALYSIS OF RELOCATION ASSISTANCE AND PAYMENTS FOR
 INTERSTATE SYSTEM IN INDIANA FROM OCTOBER 1, 1965
 TO SEPTEMBER 30, 1968³
 (NUMBERS)

Number	Total	White	Non-White	Owners	Tenants	Below \$6,000 to \$6,000 Value or \$60 Rental			Over \$15,000 Value or \$10 Rental			Rural	Urban	Total	Amount of Payments beginning April 1, 1967 (Dollars)							
						Before After 4-1-67 4-1-67 4-1-67			Before After 4-1-67 4-1-67 4-1-67							Before After 4-1-67 4-1-67 4-1-67						
						Before	After	Before	Before	After	Before	9-10-10-10-10-10	9-10-10-10-10-10	9-10-10-10-10-10	Before	After	Before					
Of Relocates (units)	331	2256	206	1358	125	898	220	926	111	1330	103	688	200	1461	28	107	6	75	325	2181	2587	
Furnished Requested Assistance (units)	126	1065	73	510	53	555	64	357	62	708	65	403	59	652	2	10	1	29	125	1036	1191	
Relocated Through Assistance	13	395	4	157	9	238	4	82	9	313	11	185	2	210	0	0	0	15	13	380	408	
Relocated on Own Initiative	318	1861	202	1201	116	660	216	844	102	1017	92	503	198	1251	28	107	6	60	312	1801	2179	
Of Residential Payments	0	1990	0	223															69	1921	1990	
Of Business Payments	0	0																	6	217	223	
																			Total Amount of Payments	1,254 50	372,462 28	383,716 78

Note Prior March of 1967 Indiana lacked enabling legislation to make relocation payments

TABLE 38. ANALYSIS OF RELOCATION ASSISTANCE FOR INTERSTATE SYSTEM IN INDIANA FROM OCTOBER 1, 1968 TO JUNE 30, 1973³
 (NUMBERS)

^a Only 28 units were displaced between June 30, 1972 and June 30, 1973.

TABLE 39. ANALYSIS OF RELOCATION PAYMENTS FOR INTERSTATE SYSTEM IN INDIANA FROM OCTOBER 1, 1968 TO JUNE 30, 1973³

Type of Payment	Dwellings			Forms			Businesses			Non-Profit Organizations			Total
	No. of Units	No. of People	Amount (Dollars)	No. of Units	Amount (Dollars)	No. of Units	Amount (Dollars)						
Moving Payments	1,315	3,782	265,873.50	16	9,751.22	421	1,389,948.47	7	8,125.75	175.9	1,673,698.94		
Replacement Housing a	328	1,055	599,267.38							3.28	599,267.38		
Replacement Housing/Rental b	656	1,983	531,664.02							6.56	531,664.02		
												Total Payments from 10-1-68 to 6-30-73	2,804,630.34
												Total Payments from 10-1-65 to 9-30-68	383,716.78
												Total Payments from 10-1-65 to 6-30-73	3,188,347.12

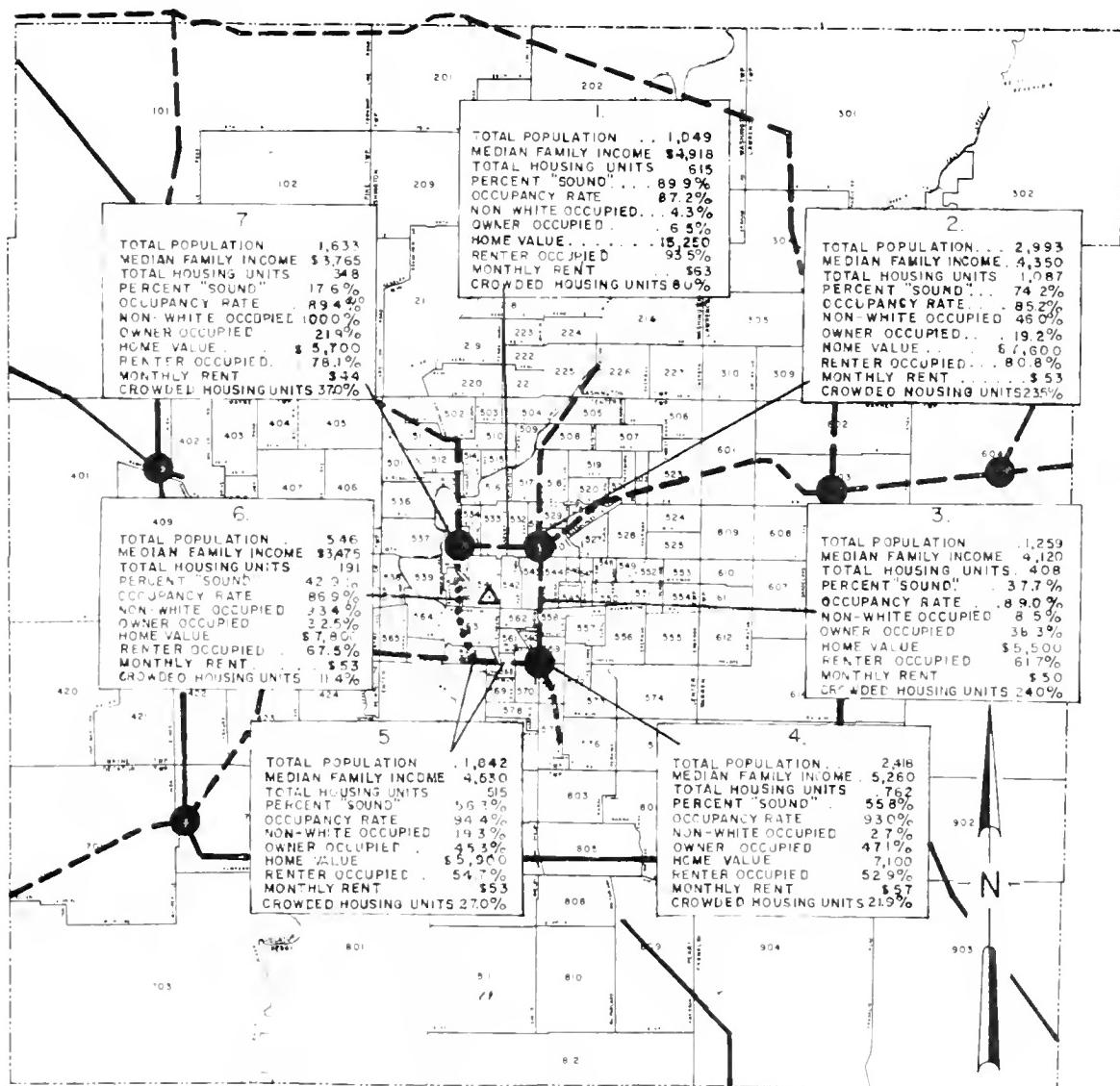
a Owner Occupied

Department of Indianapolis and its subcontractors (Flanner House and the Community Action Program Agency of Indianapolis) provided advisory assistance to approximately 1260 of the 5000 families; the Indiana State Highway Commission provided assistance to the remainder and processed all relocation payments. Although some middle and upper income families refused relocation assistance, there were undoubtedly a number of low income families who failed to take advantage of the relocation services provided by the State. Some families left the area of the proposed facility without a trace when they learned the rental housing in which they lived was to be acquired. There were also cases in which families left the area without collecting their relocation payments.

Generally the income level of those displaced declined as the radial routes approached the urban core of Indianapolis. Figure 128 (p. 824) records the social and housing characteristics of those displaced in the construction of the Inner Belt. Although clearance of right-of-way of the Inner Belt removed blighted housing that was often too deteriorated to be rehabilitated, the supply of low income housing was materially reduced, thus aggravating the low income housing problem. The Indianapolis Housing Authority provided dwellings for four hundred families displaced by the Inner Belt construction. These families at one time occupied forty percent of the public housing units in Indianapolis.

The Indiana State Highway Commission utilized an advanced land acquisition program for the Interstate System within Indianapolis to minimize relocation problems. Advanced land acquisition allowed those displaced a greater amount of time to search for replacement housing.

Because replacement housing payments and rental supplements could only be made to those who relocated to standard housing, those who previously lived in substandard housing improved their quality of housing. However, rental supplements which covered the cost of housing above twenty-five



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BASE MAP AND DATA
FURNISHED BY
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DEPARTMENT, MARION
COUNTY, INDIANA

FIGURE 128 SOCIAL AND HOUSING CHARACTERISTICS INNER LOOP FREEWAY PLAN

percent of the relocatee's income were temporary. Reloctees who became home owners received long term financial benefits because housing payments covered the difference between the value of the existing housing and comparable replacement housing and provided downpayments for those who wished to become home owners. Unfortunately, the more liberal relocation benefits came after a majority had been displaced. The section on relocation in Chapter V covers relocation benefits in greater detail.

In summary, the Interstate System adversely affected through displacement some people and businesses who were least able to bear the social cost and resulted in the loss of customers to highway-oriented businesses which were bypassed. On the other hand, many benefits from the Interstate System resulted to others in each affected community. A thorough evaluation of all impacts at some future date will be necessary to determine the final overall effect the Interstate System will have on the communities of Indiana.

Effect on Other Highway Programs

Since about 1960, the Interstate Program has taken precedence over other highway programs in Indiana and in the nation. State funds used to match Federal funds for the Interstate Program have restricted the availability of State funds for other State programs. Expenditures and appropriations for non-Interstate highway programs have increased since the Interstate Program began in 1956, but have not increased in the same proportion as expenditures and funding for the Interstate Program. It should be noted, however, that the other highway programs have had priority over the Interstate Program in the disposition of funds from the Federal Highway Trust Fund. When there were inadequate revenues for all highway programs in fiscal year 1961, the authorization for only the Interstate Program was cut.

Because highways intersecting the Interstate System require improvement to handle additional loads created by the System, other Federal aid improvements have been highly related to the Interstate Program. However, the policy of the Indiana State Highway Commission has been to improve the crossroad at some programmed date and not to improve the crossroad concurrently with Interstate construction. This policy has maintained the priorities for improvement established by needs studies for other systems.

Because the Interstate Program was for a fixed time period rather than a continuing program like other highway programs, it deserved a temporary increased emphasis. In the early 70's the emphasis returned to the continuing programs which had been somewhat neglected. Since the Interstate System had nearly been completed, the Indiana State Highway Commission concluded that a shift of emphasis to the other highway programs was desirable. In fiscal years 1970 through 1972, Indiana spent nearly \$140 million on Primary System construction. These expenditures have been on primary routes that fill the voids in the Interstate System.

There are few highway projects where traffic volumes and traffic operations warrant a design comparable to that of the Interstate. However, the Interstate System has revealed the benefits of higher type facilities to the public. Without the experience of the Interstate System, it would be more difficult to support the needs for higher design and operational standards. The Interstate Program has been the proving ground for many innovations in design to improve safety and operations. These innovations will gradually be translated to other systems because of public recognition of their benefits.

The Second Time Around

The Federal Aid Highway Act of 1956 and Highway Revenue Act of 1956 provided the basic schedule of expenditures and

revenues to complete the System by July 1, 1969. Congress foresaw that the cost of the System would increase and expected to make biennial adjustments in the expenditures and revenues to complete the System by the specified completion date. However, Congress did not anticipate the magnitude of the increase in the total cost of the System that occurred. From July of 1954 to January of 1971, the total cost of the System increased from \$27 billion to \$76 billion for the Nation and from 0.87 billion to \$1.42 billion for Indiana.

The increase in the total cost of the System was due to changes in law, policy and standards as well as a general increase in construction prices. Congress changed the design year for the System, required a minimum of four lanes, stressed the importance of safety, required greater consideration of environmental factors, and extended the length of the System. The Federal Highway Administration approved heavier pavements and additional lanes to accommodate the traffic volumes for the new design years. Federal participation in new design standards, with respect to safety on new projects and corrective work on completed projects, increased the total cost of the System.

As these factors increased the ultimate cost of the System, the completion date for the System was extended to maintain the balance of revenues and expenditures. With each delay in completion of the System, the cost of the System increased further due to increases in construction prices.

Although the completion date for the System is June 30, 1976, according to the Federal Aid Highway Act of 1970, the completion date more realistically will be June 30, 1979, or even later, on the basis of projected funding. If projected funding levels are low, the System may not be completed until the 1980's.

Despite the fact that completion of the System has been delayed, the System is having tremendous impacts on the user and the community. The changes in the design of the System

extended its structural and functional life, assured safer travel, provided increased service to urban areas, and insured greater compatibility with the goals and objectives of urban areas. If these changes had not been made, the System might have been completed earlier; however, the System would be obsolete by 1975 and would require expensive upgrading to carry future traffic loads and to bring the System into compliance with new safety standards.

If the Interstate Program history were to be relived, it is probable that the Indiana State Highway Commission would not greatly alter its construction priorities. To a great extent these priorities were predicated on the time needed to develop highway projects. If the State had concentrated its early efforts on the completion of the System in urban areas, the System would have provided greater benefits to a segment of the population, but not to the State as a whole. The complexity and cost of developing urban portions of the System would have meant that only a much smaller portion of the System would have been completed by 1972 rather than eighty-seven percent of the System. Federal regulations of 1972 require a longer time for the development of Interstate projects; consequently, a change to early urban priorities would further have delayed completion of a large share of the System in Indiana.

Planning on the complex segments of the Interstate System in Indianapolis, nevertheless, began early in the Interstate Program. The mere complexity of design and coordination in the Indianapolis area have stretched the development time for these projects until the latter part of the Interstate Program.

The release of funds for obligation by the Bureau of Budget and the amounts of allocations by Congress have affected the implementation of the Interstate Program. As the total cost of the System increased, Congress authorized increased expenditures. However, to keep the increased expenditures on the System in balance with revenues under existing law,

the expenditures were spread over a greater period of time, delaying the completion date.

Indiana geared up its production of plans and acquisition of right-of-way in anticipation of receiving the necessary funds to complete the System by the established completion date. Each time the completion date was deferred, the State had to redesign some of the projects already completed. In other words, if plans were based on a certain set of specifications and construction was delayed such that new specifications were required, the original design plans had to be revised in accordance with the new specifications.

Since the withholding of funds began in 1966, the resulting uncertainty of funding has made the establishment of an on-going highway program more difficult. Because the annual apportionment of Interstate funds is based on costs to complete the System, Indiana has been receiving less in apportionments in recent years. When the already limited funds were then partially withheld, Interstate Program financing became a problem, especially in 1972.

Many highway engineers and planners feel that it would have been best to provide the necessary funds to complete the System by the original completion date. However, they recognize that the highway program must compete with other equally necessary programs for the limited financial resources of the Nation. Although the withholding of highway funds is distasteful from the highway program standpoint, the regulation of Federal expenditures is a recognized means to regulate the economy. The Highway user generally has accepted the temporary withholding of funds for economic reasons; however, the possible utilization of these withheld funds for non-highway purposes as proposed in recent Federal legislation has met strong opposition.

Indiana is fortunate that it did not experience a significant financial pinch until after most of the Interstate System had been completed. However, financial limitations

will make completion of the remainder of the System a task requiring several years.

The Interstate System is a most important part of the highway transportation system in Indiana and transportation is vital to the economic well-being of Indiana. It is certain that the Indiana Interstate System will play a commanding role in the future of Indiana and will have a great impact on the welfare of its citizens. This history is a documentation of the development of the System and should serve as basic information from which a future evaluation of the full impacts of the System on Indiana can be made. Such an evaluation is strongly recommended.

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APPENDIX

TABLE 40. STATUS OF IMPROVEMENT OF INTERSTATE HIGHWAYS IN INDIANA

Route	Free Facilities	Toll Facilities	Total System	Date
All	0.25	2.35	0.3	4.05
I-64			0.27	104.2
I-65				274.4
I-69				151.7
I-70				151.6
I-74				150.0
Elk.-Kal.			2.2	2.2
Tri-State Toll Rd.	6.40	6.40	0.00	39.2 45.6
I-465			52.8	52.8
All	0.69	6.40	0.69	0.27 925.8 932.5
I-64				104.2 104.2
I-65				274.1 274.4
I-69				151.7 151.7

TABLE 40. (Cont.)

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Miles Free	Mileage Added	Miles Under Construction	Miles Open to Traffic	Miles Under Construction	Miles Open to Traffic	Percent Open to Traffic	Date							
I-465					52.8	52.8													
All	6.40	0.69	6.40	0.69	0.27	925.8	932.5	6.1	0	156.85	163.25	1095.5	14.90	12/31/57					
I-64						4.74	104.2	104.2											
I-65							269.7	274.4											
I-69							151.7	151.7											
I-70							151.6	151.6											
I-74							150.0	150.0											
Elk -									2.2	2.2									
Kal.																			
Tri -																			
State	6.40	6.40			0.30	38.9	45.6												
Toll Rd.																			
I-265									6.1	6.1									
I-465									52.8	52.8									
All	6.40	0.68	6.40	0.68	5.04	927.2	938.6	0	0	156.85	163.25	1095.5	14.90	6/30/58					

TABLE 40. (Cont.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-64				
I-65				
I-69				
I-70				
I-74				
Elk.- Kal.				
Tri- State	6.40	6.40	0.30	45.6
Toll Rd.				0 156.85
I-265				
I-465				
All	6.40	0.68	6.40	0.68 71.76 860.5 938.6 0 156.85 163.25 1095.5 14.90 12/31/58

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Date
I-64	6.40	0.68	6.40
I-65	4.47	0.68	6.40
I-69	2.43	0.68	6.40
I-70	6.70	0.68	6.40
I-74	6.40	0.68	6.40
Tri-State Toll Rd.	6.40	0.68	6.40
All	6.40	0.68	6.40
Miles Completed	Percent Open to Traffic	Miles Open to Traffic	Percent Open to Traffic
I-265	6.40	0.68	6.40
I-465	6.40	0.68	6.40
All	6.40	0.68	6.40
Miles Under Construction	Total Free	Miles Under Construction	Total Free
I-64	57.71	216.7	104.2
I-65	30.73	119.3	216.7
I-69	3.84	119.3	151.7
I-70	3.84	119.3	151.6
I-74	3.84	119.3	151.6
Tri-State Toll Rd.	3.84	119.3	151.6
All	3.84	119.3	151.6
Addition	Mileage	Miles Under Construction	Miles Under Construction
I-64	52.8	104.2	216.7
I-65	52.8	216.7	216.7
I-69	52.8	151.7	151.7
I-70	52.8	151.6	151.6
I-74	52.8	151.6	151.6
Tri-State Toll Rd.	52.8	151.6	151.6
All	52.8	151.6	216.7
Placed Under Construction	Construction	Miles Under Construction	Miles Under Construction
I-64	57.71	104.2	216.7
I-65	30.73	216.7	216.7
I-69	3.84	151.7	151.7
I-70	3.84	143.0	143.0
I-74	3.84	110.2	110.2
Tri-State Toll Rd.	3.84	110.2	110.2
All	3.84	110.2	216.7
Percent Open to Traffic	Miles Open to Traffic	Miles Under Construction	Miles Under Construction
I-64	6.1	104.2	216.7
I-65	6.1	216.7	216.7
I-69	6.1	151.7	151.7
I-70	6.1	143.0	143.0
I-74	6.1	110.2	110.2
Tri-State Toll Rd.	6.1	110.2	216.7
All	6.1	110.2	216.7
0	156.85	0	156.85
0	156.85	0	156.85

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Total System	Date
I-265 I-465	A11 13.60 1.41 6.40 0.67 122.26	6.40 46.4 52.8	826.1 961.9	0 156.85 163.25 1118.8 14.59 12/31/59
I-64	4.47	0.22 63.13	125.1 198.4	125.3 266.0
I-65	4.47	63.13	158.6	158.6
I-69		11.23	143.0	154.2
I-70		48.94	102.0	153.3
I-74	2.43			
Tri-State	6.70	3.54	35.4	45.6
Toll Rd.				0 156.85
I-265 I-465	A11 13.60 1.41 6.40 0.67 133.46	6.40 46.4 52.8	815.0 961.9	0 156.85 163.25 1118.8 14.59 6/30/60
I-64	63.14	0.58 19.27	124.7 183.6	125.3 266.0
I-65	63.14	7.69	150.9	158.6
I-69		11.23	143.0	154.2
I-70	17.09	37.35	98.9	153.3

TABLE 40. (Cont.)

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Miles Complicated	Percent Open to Traffic	Miles Open to Traffic	Miles Under Construction	Miles Yet To Be Constructed	Miles Under Construction	Total Miles Free	Miles Added	Mileage	Miles Under Construction	Miles Open to Traffic	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic	Date
I-465	6.40	8.20	11.60	34.8	52.8	0	156.85	307.36	1118.8	27.47	6/30/62								
A11	149.06	15.50	150.51	15.65	118.12	694.7	961.9												
I-64	0.58	0.42	0.42			122.2	122.8												
I-65	92.71	90.59	90.59	2.67	167.4	167.4	262.8												
I-69	20.61	10.16	10.16	3.46	134.5	134.5	158.6												
I-70	11.23	10.95	10.95	7.99	135.0	135.0	154.2												
I-74	57.09	59.04	59.04	48.21	46.0	46.0	151.3												
Tri-State	13.01	9.89	9.89	0.00	32.8	45.8													
Toll Rd.																			
I-265						6.6	6.6												
I-275																			
I-465	14.51	11.46	11.46	8.87	29.8	53.2	3.3												
A11	209.74	21.96	192.51	20.15	71.20	673.3	955.3	3.3	0	156.85	349.36	1115.5	31.32	12/31/62					
I-64	0.58	0.42	0.42			122.2	122.8												
I-65	92.71	90.59	90.59	8.04	162.1	162.1	262.8												
I-69	24.07	10.16	10.16	42.29	92.2	92.2	158.6												
I-70	11.23	10.95	10.95	7.99	135.0	135.0	154.2												
I-74	57.09	59.04	59.04	48.21	46.0	46.0	151.3												

TABLE 40. (Cont.)

TABLE 40. (Contin.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-265	0.58	0.42	1.00	
I-65	92.71	90.59	183.30	
I-69	32.99	24.41	57.40	
I-70	19.22	18.91	37.13	
I-74	99.56	99.63	199.19	
Tri-State	13.01	9.89	22.90	
Toll Rd.				0 156.85
All	281.45	29.36	310.81	
I-64	0.58	0.42	0.42	
I-65	100.75	97.81	198.56	
I-69	91.28	77.71	168.99	
I-70	19.22	18.91	38.13	
I-74	111.25	105.07	216.32	
Tri-State	15.38	15.00	30.38	45.8
				0 156.85 421.26 1115.5 37.76 6/30/64

TABLE 40. (Cont.)

TABLE 40. (Cont.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-64	0.58	0.42	118.1	124.0
I-65	100.75	97.81	139.9	262.1
I-69	124.66	113.63	23.3	157.8
I-70	19.22	18.91	57.15	77.7
I-74	139.49	123.34	11.76	154.1
Tri-State	15.38	15.00	00.00	151.25
Toll Rd.			30.4	45.8
I-265			6.7	6.7
I-275			3.3	3.3
I-465	25.49	25.52	2.56	53.1
425.57	44.41	394.63	41.18	108.03
I-64	0.58	0.42	13.86	109.6
I-65	107.49	97.81	14.69	139.9
I-69	124.66	129.27	14.96	18.2
I-70	19.22	18.91	91.10	43.8
I-74	139.49	137.75	11.76	00.0
Tri-State	15.38	15.00	00.00	151.25
			0	156.85
			551.48	1115.1
			49.46	12/31/65

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Total System	Date
I-64	432.31	45.12	424.68	44.32 155.30
I-65	25.49	25.52	8.93	370.6 958.2
I-66				6.7 6.7
I-67				3.3 3.3
I-68				18.7 53.1
I-69				0 156.85
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I-464				

TABLE 40. (Continued.)

TABLE 40. (Cont.)

(a) Not officially Added Until November of 1969. Excluded from percentages.

TABLE 40. (Cont.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-64	18.59	13.36	92.52	124.00
I-65	150.46	152.29	52.36	262.07
I-69	144.99	139.08	5.78	157.81
I-70	124.48	110.34	20.18	154.10
I-74	151.25	100.00	151.25	00.00
Tri-State	15.38	15.00	3.61	26.72
Toll Rd.				45.71
I-164				14.30
I-265				6.74
I-275				3.29
I-465	39.28	37.87	18.53	53.11
				4.76(a)
644.43	67.26	619.19	64.63	120.24
				198.11
				958.08
				19.00
				156.85
				776.04
				1129.25
				68.72
				12 31 / 68

(a) Not Officially Added Until November of 1969. Excluded from percentages.

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Miles Under Construction	Miles Open to Traffic	Percent Open to Traffic	Mileage Added	Miles Under Construction	Miles Open to Traffic	Mileage Designated	Percent Open to Traffic	Miles Open to Traffic	Percent Open to Traffic	Date
I-64	18.59	13.36	12.89	92.52	124.00														
I-65	158.65	152.29	72.11	31.31	262.07														
I-69	144.99	139.08	5.78	7.04	157.81														
I-70	124.87	110.34	19.79	9.44	154.10														
I-74	151.25	100.00	151.25	100.00	00.00	00.00	00.00	00.00	00.00	151.25									
Tri-State	15.38	15.00		11.53	18.80	45.71													
Toll Rd.																	0	156.85	
I-164					14.30	14.30													
I-265					6.74	6.74													
I-275					3.29	3.29													
I-465	39.28	37.87	18.53	0.00	53.11	4.76(a)													
	653.01	67.16	619.19	63.68	140.62	183.44	972.38	4.70	0	156.85	776.04	1129.23	68.72	6/30/69					

(a) Not Officially Added Until November of 1969. Excluded from percentages.

TABLE 40. (Cont.)

Route	Toll Facilities	Free Facilities	Miles Completed to Traffic Open	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Miles Under Construction	Miles Yet To Be Placed Under Construction	Miles Open to Traffic	Miles Under Construction	Miles Open to Traffic	Miles Designated to Traffic	Percent Open to Traffic	Total System Facilities	Date	
I-64	31.48	31.06	0.00	92.52	124.00												
I-65	158.65	163.05	81.97	21.45	262.07												
I-69	150.77	147.64	7.04	0.00	157.81												
I-70	138.10	143.99	8.17	7.83	154.10												
I-74	151.25	100.00	151.25	100.00	00.00	00.00	00.00	00.00	00.00	151.25							
Tri-State	18.99	18.81	18.58	8.14	45.71										0	156.85	
Toll Rd.																	
I-164			14.30	14.30													
I-265			6.74	6.74													
I-275			3.29	3.29													
I-465	47.49	45.36	10.32	0.00	53.11	4.70											
	696.73	71.65	701.12	72.10	126.08	154.27	972.38	4.70	0	156.85	857.97	1133.93	75.66	12/31/69			
I-64	31.48	31.06	12.97	79.55	124.00												
I-65	158.65	163.05	92.79	10.63	262.07												
I-69	150.77	147.64	7.04	0.00	157.81												
I-70	138.10	143.99	8.17	7.83	154.10												
I-74	151.25	100.00	151.25	100.00	00.00	00.00	00.00	00.00	00.00	151.25							
Tri-State	18.99	18.81	18.58	8.14	45.71												

TABLE 40. (Cont.)

TABLE 40. (Cont.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-64	31.48	31.06	39.70	52.82 124.00
I-65	208.93	197.92	48.20	4.94 262.07
I-69	150.77	152.31	7.04	00.00 157.81
I-70	144.66	143.99	3.47	5.97 154.10
I-74	151.25	100.00	151.25	00.00 151.25
Tri-State	18.99	18.81	26.72	00.00 45.71
Toll Rd.				0 156.85
I-164			14.30	14.30
I-265			6.74	6.74
I-275			2.98	3.29
I-465	57.81	100.00	57.81	00.00 57.81
I-64	35.84	35.66	63.07	25.09 124.00
I-65	246.57	231.60	10.56	4.94 262.07
I-69	157.81	100.00	157.81	00.00 157.81
I-70	146.27	143.99	3.91	3.92 154.10
I-74	151.25	100.00	151.25	00.00 151.25
Tri-State	37.57	28.16	8.14	00.00 45.71

Percent Open to Traffic

Miles Designated

Miles Open to Traffic

Miles Open to Traffic

Miles Under Construction

Mileage Added

Mileage Total Free

Miles Under Construction

Miles Under Construction

Percent Open to Traffic

Miles Open to Traffic

Percent Complete

Miles Completed

Percent Open to Traffic

Miles Open to Traffic

Percent Open to Traffic

6/30/71

TABLE 40. (Cont.)

TABLE 40. (Cont.)

Route	Free Facilities	Toll Facilities	Total System	Date
I-64	44.45	35.66	61.23	124.00
I-65	257.13	255.85	00.00	4.94 262.07
I-69	157.81	100.00	157.81	100.00 00.00 00.00
I-70	147.32	143.99	2.86	3.92 ^a 154.10
I-74	151.25	100.00	151.25	100.00 00.00 00.00
Tri-State	37.57	45.71	100.00	8.14 00.00 45.71
Toll Rd.				156.85
I-164				14.30
I-265				6.74 0.00 6.74
I-275				2.06 1.23 3.29
I-465				0.00 0.00 57.81
	853.34	87.36	848.04	86.79 81.03 42.71 977.08
				156.85 1004.89 1133.93 88.62 12/31/ 72

^aExcludes 2.22 miles of East Leg of the Indianapolis Inner Belt included under I-65.

TABLE 41. MILEAGE OPEN TO TRAFFIC

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-80-94 FA-UL-265(0,3) UI-265(6) UI-UGI-265(7,8)	Ill.-Ind. State Line to Indiana- polis Boulevard	1952	2.35	
I-80-94 UI-UGI-265(8) UI-265(17,18,15,19)	Indianapolis Boulevard to Burr Street	8/56	4.05	
	As of 8/56		6.40	6.40
I-65-3(1)126 -5(11)129 -5(8)132 -5(4)137 -5(1)139	Temporary connection to Old US 52 near Royalton to US 52 NW of Lebanon	12/60	13.39	
I-74-1(5)0 -1(11)5 -1(14)7	Ill.-Ind. State Line to Covington- Strington Road	12/60	7.98	
UI-265(19) I-80-1(31)6 -1(32)8	Burr St. to Broadway (SR 53)	11/60	3.49	
	As of 6/30/61		24.86	31.26
I-64-3(8)125	Kentucky-Ind. State Line to Spring Street	12/22/61	0.26	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-65-1(1)2 -1(5)5 -1(11)12 -1(19)19 -1(34)23 -1(40)29 -2(19)35 -2(5)40 -2(8)46	US 31E to US 50 [I-65 open to Kentucky via US 31E. US 31E to be upgraded to Interstate in 11/64]	11/61	45.71	
I-65-3(12)123 -3(4)123	I-465 to 71st Street	9/26/61	1.48	
I-65-3(4)123 -3(1)126	71st Street to temporary connection of Old US 52 near Royalton	9/17/61	3.77	
I-70-5(17)148 -5(6)141	Ohio-Ind. State Line to Centerville Road	9/17/61	10.95	
I-74-1(14)7 -1(17)11	Covington-Stringtown Road to temporary US 136 interchange	9/61	3.42	
I-74-2(7)56 -2(15)64 -2(22)69	SR 39 to I-465	9/17/61	15.71	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-3(1)94 -3(39)94 -3(18)106 -3(26)112 -3(46)120	I-465 to St. Paul Road	9/1/61	29.50	
I-465-4(21)145	I-65-SR 100 to I-74	9/26/61	4.06	
I-465-4(21)145 -4(16)149	I-74 to 10th Street	12/21/61	1.94	
I-465-4(16)149 -4(13)151 -4(12)153	10th Street to US 40	12/20/61	2.20	
	As of 6/30/62		119.00	150.26
I-65-2(8)46 -2(26)51 -2(36)57 -2(39)61 -2(45)65 -2(51)68 -2(56)74	US 50 to US 31 near Taylorsville	10/29/62		26.24
I-69-4(20)102 -4(13)105 -4(3)109	US 24-SR 37 to Old US 27 (now SR 327)			10.16

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-4 (37) 169	US 52 to Ohio-Indiana State Line	11/62	2.34	
I-465-4 (12) 153 -4 (60) 153 -4 (31) 156	US 40 to SR 67 southwest of Indianapolis	7/18/62	3.26	
	As of 6/30/63		42.00	192.26
I-69-4 (3) 109 -4 (6) 112 -4 (11) 117 -5 (19) 122 -5 (22) 125	Old US 27 (now SR 327) to St. Johns-Auburn Road	10/31/63	14.25	
I-70-5 (6) 142 -5 (40) 140 -5 (38) 136	Centerville Road to Relocated SR 1	8/30/63	7.96	
I-74-3 (46) 120 -3 (42) 125 -4 (6) 131 -4 (21) 133 -4 (21) 141	St. Paul Road to Rossburg Road (New Point)	8/17/63	20.00	
I-74-4 (21) 141 (24) 145	Rossburg Road (New Point) to SR 229	10/29/63	6.10	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-4(24)145	SR 229 to SR 1	12/4/63	14.49	
-4(28)149				
-4(30)153				
-4(42)157				
-4(47)163				
-4(50)167				
-4(58)163				
I-465-4(59,131)156	SR 67 to SR 37 (new Harding Street)	10/18/63	3.20	
-4(74)159				
I-465-4(74)159	SR 37 to US 31 (South Leg I-465)	12/13/63	3.10	
-4(72)162				
I-465-4(61)109	Emerson Avenue to	8/22/63	2.80	
-4(96)116	I-74			
	As of 6/30/64	71.90	264.16	
I-65-1(48)0	From Kentucky-			
-1(49)1	Indiana State Line			
-1(1)2	to US 31E-SR 131	11/64	3.78	
I-65-3(12)125	I-465 to Lafayette			
-3(28)120	Road (Old US 52)	7/64	2.02	
I-65-3(31)107	I-465 to Keystone			
	Avenue	10/15/64	1.18	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-69-3(7)59 -3(42)57 -2(47)53 -2(28)49 -2(23)44 -2(43)41 -2(37)37 -2(33)33 -2(16)30 -2(8)26 -1(19)25 -1(13)21 -1(8)18	SR 18 to SR 38	12/15/64	45.41	
I-69-5(22)125 -5(32)129	St. Johns-Auburn Road to US 6	9/18/64	7.89	
I-69-5(32)129 -5(40)135 -5(45)141 -5(49)145	US 6 to US 20	6/30/65	13.66	
I-74-4(58)163 -4(37)169	SR 1 to US 52	10/30/64	5.44	
I-80-1(32)8 -1(1)10 -1(43)11 -1(7)12	Broadway (SR 53) to SR 51 with ramps to Ind. Toll Road			5.11

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-465-4 (72) 162	US 31 to Emerson Avenue			
-4 (62) 164	(South Leg I-465)	10/15/64	3.69	
-4 (61) 109				
I-465-4 (96) 112	I-74 to SR 100	10/15/64	1.27	
-4 (122) 113				
	As of 6/30/65		89.45	353.61
I-69-3 (7) 59	SR 18 to US 224	11/2/65	22.26	
-3 (13) 63				
-3 (15) 68				
-3 (18) 73				
-3 (19) 79				
-4 (31) 87				
I-69-4 (31) 87	US 224 to US 24-			
-4 (33) 90	SR 37	6/27/66	15.64	
-4 (28) 96				
-4 (20) 102				
I-74-1 (43) 21	SR 25 to SR 32	5/27/66	14.41	
-1 (36) 27				
-1 (38) 33				
-2 (49) 36				

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	Date Opened to Traffic	Mileage Open to Traffic (Miles)	Cumulative Mileage (Miles)
I-74-2(49)36 -2(41)43 -2(28)44 -2(7)56	SR 32 to SR 39	11/1/65	18.27	
	As of 6/30/66		70.58	424.19
I-65-8(12,20)266 -8(66)263 -8(65)260 -8(29)256	Ind. Toll Road to US 30	6/28/68	8.96	
I-65-3(28)120 -3(46)117	Lafayette Road (Old US 52) to 38th Street (near Guion Rd.)	12/17/67	2.16	
I-69-5(49)145 -5(55)148 -5(72)153 -5(94)155 -5(76)156	US 20 to Ind.-Mich. State Line	10/9/67	9.81	
I-70-1(4)0 -1(11)5 -1(17)7	Illinois-Indiana State Line to SR 46	8/31/67	11.18	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-4(13)101 -4(5)107 -4(4)114 -4(33)48 -5(47)122	SR 9 to SR 3	12/15/67	19.35	
I-70-5(47)122 -5(49)129 -5(38)136	SR 3 to SR 1	7/10/67	14.31	
I-74-1(17)11 -1(34)11,12 -1(64)14 -1(30)15 -1(43)21	Temporary US 136 Interchange to SR 25	8/31/67	13.50	
I-465-4(122)113	SR 100 to US 40	1/10/68	2.00	
I-465-4(122)113 -4(123)116 -4(37)116 -4(30)119	US 40 to SR 67- US 36	1/9/68	4.19	
	As of 6/30/68	85.46	509.65	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-64-1(16)17	SR 65 to US 41	8/10/68	7.34	
-1(24)21				
I-64-3(8)125	Spring Street to SR 64	7/1/68	5.60	
-3(10,11)124				
-3(23)121				
-3(16)120				
-3(21)119				
-3(36,37)110				
I-65-8(29)256	US 30 to SR 16	10/31/68	43.36	
-8(17)250				
-8(15)247				
-8(73)245				
-8(68)239				
-8(31)234				
-7(13)227				
-7(6)217 (1,2,3)				
I-70-2(7)43	SR 43 to I-465	8/30/68	31.68	
-2(23)45				
-2(18)49				
-2(30)54				
-2(35)59				
-2(24)65				
-3(34)68				
-3(4)72				

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-4 (13)101	Shadeland Avenue			
I-70-3 (68)85	(SR 100) to SR 9	12/2/68	14.91	
I-465-4 (37)116				
I-70-3 (47)86				
I-70-3 (50)92				
I-465-4 (30)119	SR 67-US 36 to 56th Street-SR 100	10/23/68	2.28	
I-465-4 (94)130	US 421 to US 31 (North Leg of I-465)	10/20/68	3.88	
	As of 6/30/69			618.70
I-64-1 (31)0	Illinois-Indiana State Line to			
-1(33)4	SR 65	10/1/69	17.70	
-1(35)7				
-1(8)13				
-1(16)17				
I-65-3 (46)117	38th Street (near Guion Rd.) to North-western Avenue (US 421)	12/10/69	2.75	
-3(64)116				
I-65-7 (6)217 (1)	SR 16 to SR 53-			
-7(23)210	US 231	10/30/69	4.42	
I-65-7 (23)210	SR 53-US 231 to			
-7(22)206	US 24	11/25/69	3.59	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-69-1(8)18	SR 38 to SR 238	8/25/69	8.56	
-1(37)12				
-1(31)6				
I-70-1(17)7	SR 46 to SR 43	10/21/69	30.00	
-1(33)12				
-1(35)17				
-1(8)24				
-1(24)30				
-2(16)37				
-2(20)40				
-2(7)43				
I-70-3(4)72	I-465 West Leg			
-3(37)73	to Holt Road	12/10/69	3.65	
I-80-1(7)12	SR 51 to			
-1(11)15	Crisman Road			
I-94-1(6)21	(SR 249)	8/15/69	3.81	
F-619(22,25)	I-65-SR 100 to North			
	Leg of I-465	11/69	4.96	
I-465-4(94)130	US 31 to relocated			
-4(129)127	SR 431	10/20/69	2.53	
	As of 6/30/70			
		81.97	700.67	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-65-3(95)100 -3(31)107	I-465 South Leg to Southport Rd.	Spring 71	2.82	
I-65-3(64)116 -3(61)115	Northwestern Avenue (US 421) to 21st St.	12/4/70	1.50	
I-65-7(22)206 -7(19)200	US 24 to SR 25	12/18/70	26.20	
-6(7)192				
-6(18)184				
-6(16)178				
-6(3)178				
-6(13)172				
I-65-2(57)64 -2(70)75	US 31 (near Taylorsville) to SR 252	8/70	4.35	
I-69-1(31)6 -1(34)0	SR 238 to SR 37	10/5/70	4.67	
I-465-4(30)119 -4(146)122 -4(129)127	56th St.-SR 100 to relocated SR 431	10/5/70	5.96	
I-465-4(94)130 -4(124)135	US 421 to I-65 (North Leg of I-465)	8/18/70	5.97	
	As of 6/30/71	51.47	752.14	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-64-1(24)21 (43)26	US 41 to SR 57	9/3/71	4.60	
I-65-6(13)172 -6(10)168	SR 25 to SR 26	7/1/71	3.02	
I-65-6(10)168 -6(21)162	SR 26 to SR 28	9/10/71	14.20	
-5(26)156				
-5(30)149				
I-65-5(30)149 -5(36)145	SR 28 to US 52 Northwest of Lebanon	12/15/71	16.46	
-5(35)140				
-5(1)139				
I-65-3(61)115 -3(51)114	21st Street to Illinois Avenue	1/21/72	1.16	
-3(118)114 ⁴ (1,2)				
I-65-2(70)75 -3(91)80	SR 252 to Southport Road	6/30/72	23.09	
-3(93)85				
-3(74)89				
-3(86)95				
-3(95)100				
I-69-1(34)0	SR 37 to I-465 North Leg	11/16/71	5.50	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-94-1(6)21 -2(9)24	SR 249 to US 20	11/29/71	3.46	
I-94-2(37)45 -2(40)45	US 20-35 to Ind. - Mich. State Line	11/29/71	5.89	
	As of 6/30/72		77.38	829.52
I-64-1(43)26	SR 57 to 0.5 mi. east of SR 57	Constructed	0.29	
I-64-1(44,45)30 -1(46)35 & (47)37 -2(11)40 -2(13)149 -2(19)157	0.5 mi. east of SR 57 to 0.5 mi. east of relocated SR 162	Under Construction	36.21	
I-64-2(23)66 -2(21)73	0.5 mi. east of re- located SR 162 to 1.6 mi. west of SR 37	PE & ROW Complete	18.32	
I-64-3(38,39)86 -3(40,50)93 -3(34,35)103 -3(36,37)110	1.6 mi. west of SR 37 to east of SR 64	Under Construction	33.99	
I-65-3(31)107	Keystone Avenue to 0.5 mi. northwest of Keystone Avenue	Constructed	0.50	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-65-3(33)109 -3(101)110 -3(141)111 -3(111)112 -3(103)113	0.5 mi. northwest of Keystone Avenue to east side of College Avenue	PE & ROW Complete	4.94	
I-65-3(118)114 (1)	Eastside of College Avenue to Illinois Avenue	Constructed	0.78	
I-70-3(37)73 -3(59)76 -3(57)75	Hold Road to Belmont Avenue	Constructed	1.56	
I-70-3(100)76	Belmont to River Ave.	PE & ROW Complete	0.88	
I-70-3(65)77 -3(75)77 -3(71,72)77	River Avenue to Madison Avenue	Under Construction	1.60	
I-65-3(141)111 -3(111)112 -3(103)113 I-70-3(76)80	Madison Avenue to 0.5 mi. east of Sherman Drive	PE & ROW Complete	5.26	
I-70-3(97)82 I-70-3(79)84	0.5 mi. east of Sherman Drive to west end of Shadeland Ave. (SR 100) interchange	Under Construction	2.87	

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-3(68)85	West end of Shadeland Avenue	Completed 6/20/69	0.16	
I-94-2(9)24 -2(13)28 -2(21)31 -2(25)36 -2(29)40 -2(37)45	US 20 to US 20-35	11/2/72	17.55	
I-164-	I-64 to SR 66	PE	14.30	
I-265-1(2)0 -1(3)3	I-64 to I-65	Under Construction	6.91	
I-275-9(19, 21)0 -2(4)0	Kentucky-Indiana State Line to US 50	Under Construction	1.96	
I-275-2(7)0	US 50 to Indiana-Ohio State Line	PE & ROW Complete	1.24	
	As of 12/31/72			149.32 978.84
Indiana Toll Road	Ohio State Line to South Bend interchange South Bend interchange to LaPorte Interchange LaPorte interchange to Gary East interchange			79.7 27.9 28.0

TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
Indiana Toll Road (continued)	Gary East interchange to Illinois State Line	11/15/56	21.3	
	As of 12/31/72		156.85	1135.65

TABLE 42. SUMMARY OF INTERSTATE ROUTE MILEAGE (In Miles)

<u>Route</u>	<u>Length in Table 41</u>	<u>Length in Interstate Cost Est.</u>	<u>Adjust- ment to Table 41</u>	<u>Explanation</u>
I-64	123.84	124.0	+0.16	Distance to Center Line of Ohio River Bridge beyond State Line
I-65	261.83	262.1	+0.24	Distance to Center Line of Ohio River Bridge beyond State Line
I-69	157.81	157.8	---	
I-70	156.35	154.1	-2.25	Portion of East Leg of Indianapolis Inner Belt in common with I-65
I-74	151.16	151.3	+0.09	Length of ramps to I-465
Tri-State	45.67	45.7	+ .04	Round off
Ind. Toll Rd.	156.85	157.0	---	
I-164	14.30	14.3	---	
I-265	6.74	6.7	---	
I-275	3.20	3.3	+0.09	Distance to Center Line of Ohio River Bridge beyond State Line
I-465	57.29	57.8	+0.52	Length of ramps to I-65
Adjustment	1135.04	1134.1	-1.11	
				1133.93



COVER DESIGN BY ALDO GIORGINI